

UltraSync Configuration Guide

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UltraSync Overview

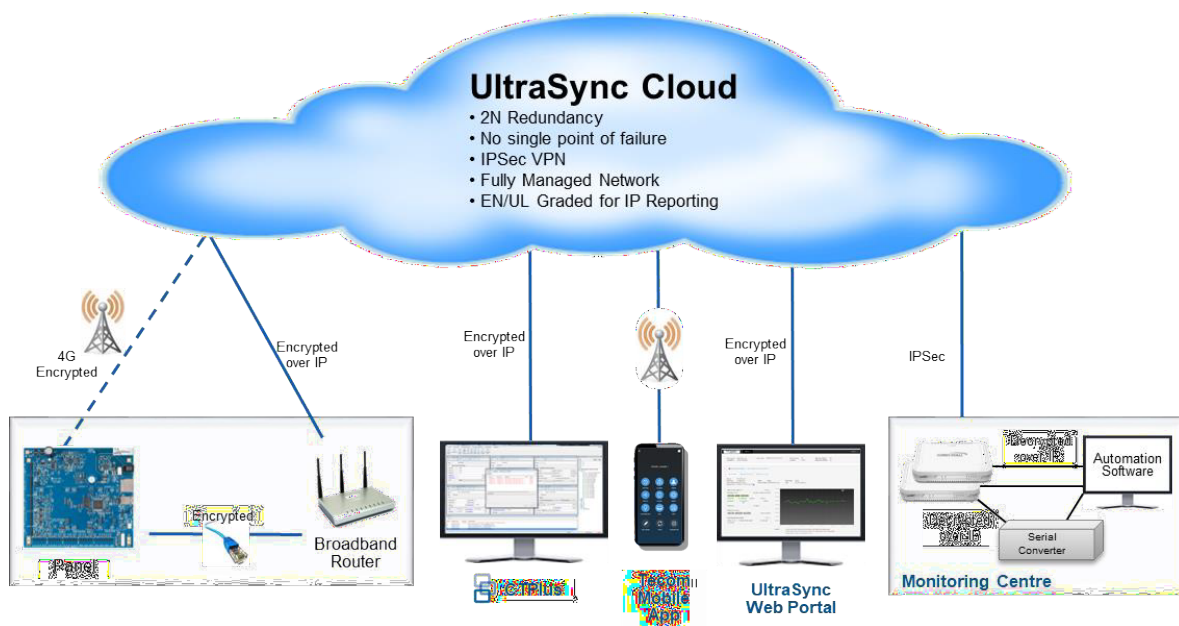
UltraSync is a service which provides a secure cloud connection between the Challenger panel and other devices, making connection of these devices easy and secured from end to end. Supported devices which may communicate with the ChallengerPlus can include management software, monitoring stations, and mobile apps.

ChallengerPlus can use the onboard Ethernet and/or the 4G Communication Module to utilize the UltraSync network for communications via the Internet as shown in the figure below.

By default, ChallengerPlus panels which have been upgraded from Challenger10 will be in a **non-provisioned** mode, and some features may not be available in this mode. The full feature-set is available to panels running in **provisioned** mode, which will be available for a fee through control rooms and monitoring stations.

This guide will take you through configuration on your ChallengerPlus panel, and assist with setting up a connection from CTPlus to ChallengerPlus.

Figure 1: UltraSync Connection



Pre-requisites for UltraSync Connections

Depending on how the ChallengerPlus panel will be utilizing the UltraSync network, there are certain pre-requisites that must be completed before an UltraSync connection will be successful. These can include:

- The ChallengerPlus panel must have access to the Internet via Ethernet or 4G.
- The ChallengerPlus panel must have an IP address on the local network. This may be configured using DHCP, or entered manually.
- The ChallengerPlus panel must have UltraSync options configured and enabled. More details are covered in the “Configuring a ChallengerPlus panel to communicate over UltraSync” section.
- A user with PIN code on the ChallengerPlus panel may be required if accessing the ChallengerPlus from software or mobile app. More information is detailed in the section “Connecting to a ChallengerPlus panel from CTPlus”.

Configuring a ChallengerPlus panel to communicate over UltraSync

The steps required to connect management software to a ChallengerPlus panel via UltraSync are:

- Get the ChallengerPlus panel's serial number.
- Set up communications hardware on ChallengerPlus panel.
- Optionally, you may set up a user on the ChallengerPlus panel (*for this guide, we will simply use the existing default TECOM MASTER user 50*).
- Configure UltraSync on ChallengerPlus panel.
- Confirm ChallengerPlus is successfully communicating with UltraSync.
- Connect to ChallengerPlus panel from CTPlus.

These steps may be completed by using either CTPlus software, or the RAS.

Using CTPlus:

1. Getting a Challenger panel's serial number

In order to connect to a Challenger panel with UltraSync, the panel's serial number is required.

If you are using a Challenger10 which has been upgraded to ChallengerPlus using firmware, the serial number is the same as the one printed on the PCB label and box.

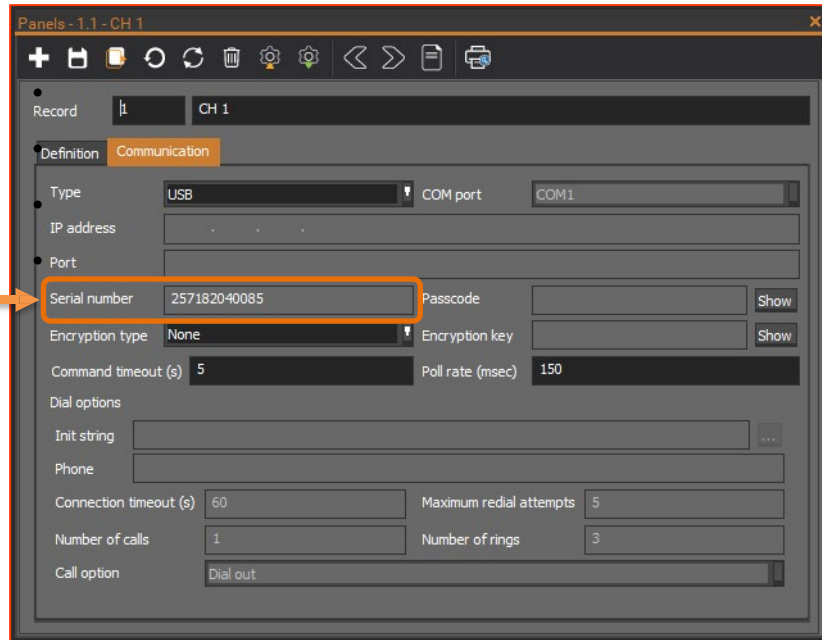
If you are using a ChallengerLE which has been upgraded to ChallengerLEPlus using firmware, the serial number is NOT the same as the one printed on the PCB label and box. Please ensure you use the methods below to get the correct serial number for use with UltraSync.

The ChallengerPlus serial number can be found in the CTPlus software if it is connected with a communication type other than UltraSync (e.g. USB or Ethernet).

This can be achieved either through the Panels form, or by viewing panel Diagnostics. Both methods are detailed below.

1. Panels form:

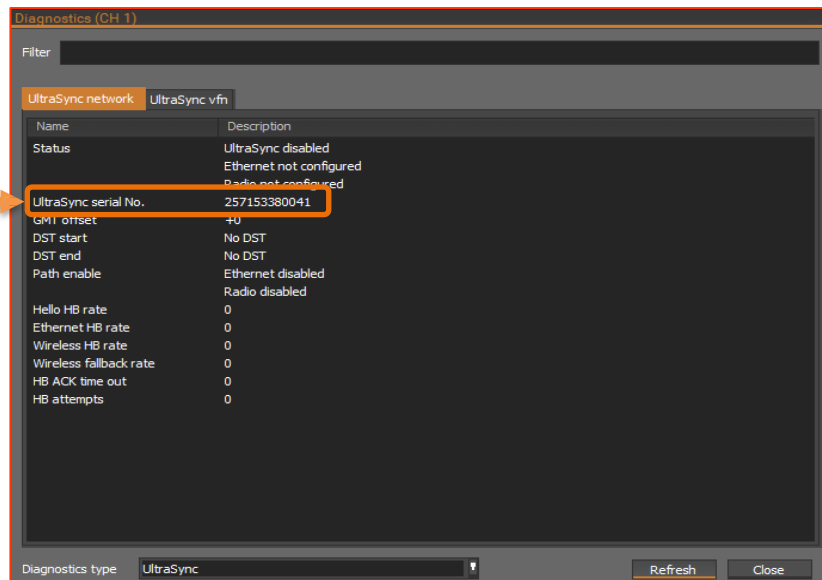
- Go to *Panel programming* > *Panels* to open the Panels form.
- Select the required Challenger panel.
- On the *Communication* tab, check the Serial number field. This will be pre-populated when CTPlus is online to the panel using any connection method.



The screenshot shows the 'Panels - 1.1 - CH 1' window. The 'Communication' tab is selected. The 'Serial number' field is highlighted with an orange box and an arrow. The value in the field is '257182040085'. Other fields include 'Type' (USB), 'COM port' (COM1), 'IP address', 'Port', 'Encryption type' (None), 'Encryption key', 'Command timeout (s)' (5), 'Poll rate (msec)' (150), 'Init string', 'Phone', 'Connection timeout (s)' (60), 'Maximum redial attempts' (5), 'Number of calls' (1), 'Number of rings' (3), and 'Call option' (Dial out).

2. Diagnostics form:

- Go to the Status and Control form (this can be found under the Operations tab if it is currently hidden)
- Right Click on the ChallengerPlus Panel
- Go to Diagnostics > Diagnostics
- Select "UltraSync" for Diagnostics type
- Check the UltraSync serial No. field.



The screenshot shows the 'Diagnostics (CH 1)' window. The 'UltraSync network' tab is selected. The 'UltraSync serial No.' field is highlighted with an orange box and an arrow. The value in the field is '257153380041'. Other fields include 'Name', 'Description', 'Status', 'Ethernet not configured', 'Radio not configured', 'GMT offset', 'DST start', 'DST end', 'Path enable', 'Ethernet disabled', 'Radio disabled', 'Hello HB rate', 'Ethernet HB rate', 'Wireless HB rate', 'Wireless fallback rate', 'HB ACK time out', and 'HB attempts'.

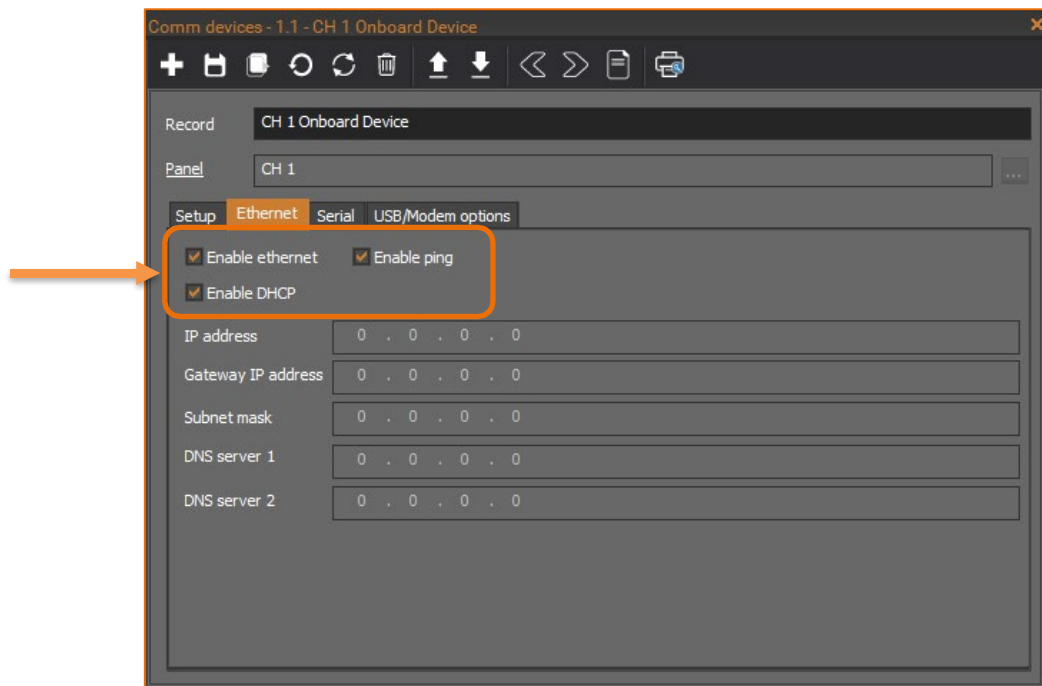
2. Setting up communications hardware on Challenger panel

To use UltraSync via Ethernet, the Challenger panel communications hardware must be configured and physically connected to the network via Ethernet cable. The network must also be connected to the Internet in order for UltraSync connectivity to be successful.

ChallengerPlus now supports using DHCP to automatically assign IP address information, or may be configured manually. If you have upgraded from a Challenger10 panel which has already had comms device programming, this will be maintained when viewing ChallengerPlus comms device settings.

ChallengerPlus comms device hardware may be configured as follows:

1. Physically connect the Challenger panel to the network via an Ethernet cable. The network must be connected to the Internet.
2. Go to Panel programming > Communications > Comm devices
3. On the Comms devices form, configure Ethernet on the Onboard communications device using the Ethernet tab.
4. On Ethernet Tab, tick the “Enable Ethernet”, “Enable ping” and the “Enable DHCP” checkboxes.

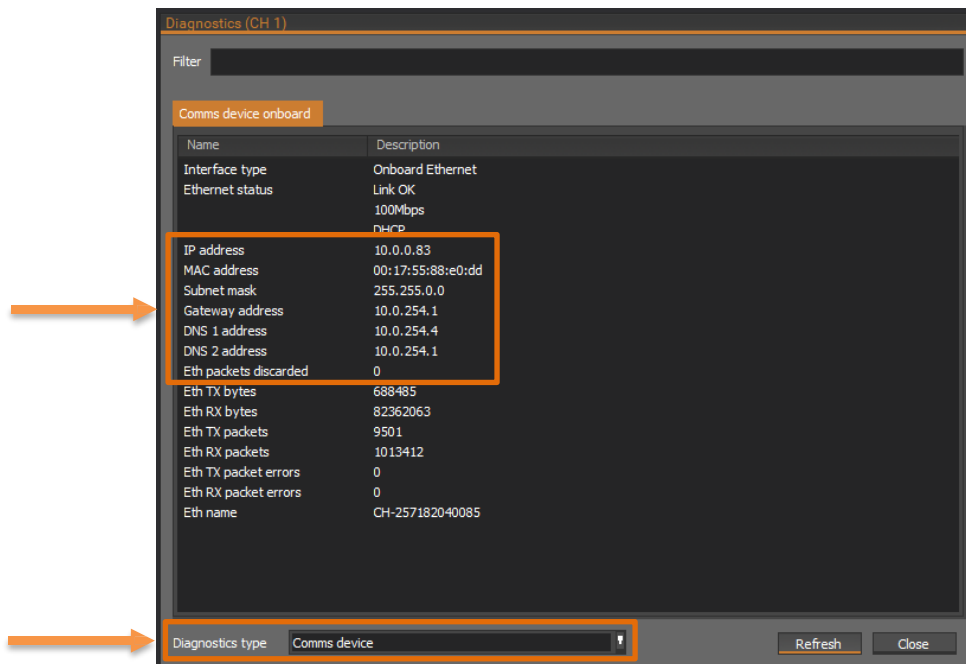


If DHCP is not available, the IP address parameters may be configured manually by ensuring that “Enable DHCP” is un-ticked, and filling in the required information.

Note: IP address, Subnet Mask, DNS server 1, and DNS server 2 are mandatory fields.

If using DHCP, you can see what IP address, Gateway address, Subnet mask and DNS addresses are automatically assigned by viewing Diagnostics information. To do this, ensure that your ChallengerPlus panel is online to CTPlus and follow the steps below:

- Go to the Status and Control form (this can be found under the Operations tab if it is currently hidden)
- Right Click on the ChallengerPlus Panel
- Go to Diagnostics > Diagnostics
- Select “Comms device” for Diagnostics type



3. Configuring UltraSync on Challenger panel

To configure UltraSync on Challenger panel:

- Go to Panel programming > Communications > UltraSync options.
- On the Setup tab, tick the “Enable UltraSync” and the “Enable Ethernet path” checkboxes.
- Path: Configured Ethernet path is assigned by default. If you would like to change the path used, choose any un-configured communication path by clicking the Browse button, or by typing the path number directly into the field.
Note: *URL and Port info have default values and should only be changed if advised by tech support.*
- In addition to the Ethernet path, you can enable the radio path and use it as a backup to the Ethernet path. This will take up to two paths, and may only function if the panel is in **Provisioned** mode.
- Enter the 8 digit UltraSync passcode. This must be any numerical value other than ‘00000000’.

The screenshot shows the 'UltraSync options - 1 - CH 1*' window. The 'Panel' dropdown is set to 'CH 1'. The 'Setup' tab is active, with sub-tabs for 'Central station filter' and 'Central station test call'. Under 'Setup', the 'Enable Ultrasync' and 'Enable Ethernet path' checkboxes are checked. The 'Path' dropdown is set to '6 - NONE'. Below this, two rows of fields are shown: 'URL 1' is 'z65.ultraconnect.com' and 'Port 1' is '443'; 'URL 2' is 'z65.zerowire.com' and 'Port 2' is '443'. The 'Enable radio path' checkbox is unchecked. Below it, 'Path' is '7 - NONE', 'Expander location' is 'Expander 1', 'URL 1' is 'z66w.ultraconnect.com', 'Port 1' is '8081', 'URL 2' is 'z66w.zerowire.com', and 'Port 2' is '8081'. The 'Remote access' section has a 'Passcode' field with eight dots and a 'Show' button. Below this, several checkboxes are present: 'Allow remote connection' (checked), 'Allow programming if any area armed' (checked), 'Allow remote control' (checked), 'Restrict control if any area armed' (unchecked), and 'Allow firmware upgrade if any area armed' (checked).

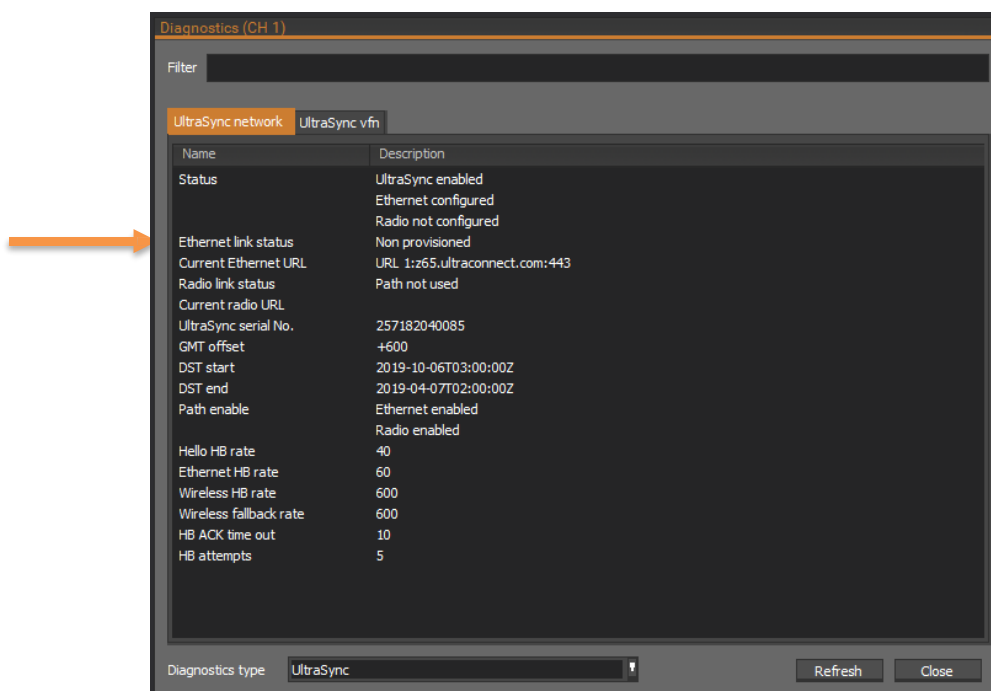
To grant full access to CTPlus via UltraSync, parameters below are enabled by default.

- **Allow remote connection:** Enables remote access between the CTPlus software and the ChallengerPlus panel via UltraSync.
- **Allow programming if any area is armed:** If enabled, user can modify the ChallengerPlus database (when connected via UltraSync) when any areas are armed. Turn off to only allow programming when all areas are disarmed.
- **Allow remote control:** If enabled, users can send commands (e.g. open door, lock door etc.) to the ChallengerPlus when connected via UltraSync.
- **Allow firmware upgrade if any area is armed:** If enabled, users can upgrade the ChallengerPlus firmware via UltraSync connection when any areas are armed. Turn off to only allow firmware upgrades when all areas are disarmed.

4. Confirm ChallengerPlus is successfully communicating with UltraSync

In ChallengerPlus, the UltraSync connection will cycle through various states, which are indicated in a status field of the CTPlus diagnostics. To check the connection status in CTPlus:

- Go to the Status and Control form (this can be found under the Operations tab if it is currently hidden)
- Right Click on the ChallengerPlus Panel
- Go to Diagnostics > Diagnostics
- Select “UltraSync” for Diagnostics type
- Check the **Ethernet link status** field.



The connection status should be “**Non provisioned**” before you can connect to the ChallengerPlus panel from CTPlus using UltraSync.

The table below outlines the various different statuses visible when looking at the UltraSync connection, as well as whether you will find them on an Ethernet connection, or a 4G radio connection.

UltraSync connection status table

Status	Description	Ethernet	Radio (4G)
Not configured	UltraSync is not configured (i.e. no paths programmed)	✓	✓
Disabled	UltraSync is not enabled	✓	✓
Path not used	Connected via Ethernet in non-provisioned mode so radio path cannot be used		✓
(Link down)	no link available (cable unplugged / can't establish a data connection)	✓	✓
Disconnected	Panel is not connected nor attempting to connect (this state should only be temporary)	✓	✓
Connecting	Establishing connection with UltraSync server	✓	✓
Handshake complete	Established connection with UltraSync server and registering	✓	✓
Non provisioned	Connected to UltraSync server in non-provisioned mode	✓	✓
Connected	Connected to UltraSync server in provisioned mode but no alarm transmission is possible	✓	✓
Registered	Connected to UltraSync server in provisioned mode	✓	✓
Verifying	Verifying wireless connection		✓
Verified	Wireless connection is verified		✓
(Waiting)	Attempting to connect on path	✓	✓

Using the RAS (keypad):

1. Getting a Challenger panel's serial number

In order to connect to a Challenger panel with UltraSync, the panel's serial number is required.

If you are using a ChallengerLE which has been upgraded to ChallengerLEPlus using firmware, the serial number is NOT the same as the one printed on the PCB label and box. Please ensure you use the methods below to get the correct serial number for use with UltraSync.

The ChallengerPlus serial number can be found via the RAS by using one of 2 methods:

- Access the Install menu (option 19) > Version (option 11) > Challenger panel ("1-Chall"). Scroll through the options until the Challenger panel's serial number appears.
- Access the Install menu (option 19) > Communications (option 9) > UltraSync ("4-UltraSync") > Status ("3-Status") > Information ("2-Info"). This will allow you to view the Challenger panel's serial number.

2. Setting up communications hardware on Challenger panel

To use UltraSync via Ethernet, the Challenger panel communications hardware must be configured and physically connected to the network via Ethernet cable. The network must also be connected to the Internet in order for UltraSync connectivity to be successful.

ChallengerPlus now supports using DHCP to automatically assign IP address information, or may be configured manually. If you have upgraded from a Challenger10 panel which has already had comm device programming, this will be maintained when viewing ChallengerPlus comm device settings.

ChallengerPlus comms device hardware may be configured as follows:

- Physically connect the Challenger panel to the network via an Ethernet cable. The network must be connected to the Internet.
- Go into Menu 19 (Install menu) > 9 (Communications) > 1 (Setup H/W) > 1 (Onboard), and press [ENTER] several times until you reach the section on Ethernet:

- Ensure that the Ethernet interface is enabled (press * [MENU] to toggle between YES or NO):

- **YES-Ethernet**
*-Change 0-Skip

- Configure whether DHCP is to be used or not (press * [MENU] to toggle between YES or NO):

- **YES-Enable DHCP**
*-Change 0-Skip

- Configure whether the panel will respond to Ping commands (press * [MENU] to toggle between YES or NO):

- **YES-Enable ping**
*-Change 0-Skip

- If DHCP is not enabled, additional options for IP address information will need to be set-up using the steps below:

- Configure the Ethernet interface's IP address by entering each segment, followed by the [ENTER] key:

- **IP Add:**
• **192.168.000.117**
IP(1):

- Configure the Ethernet interface's Subnet mask by entering each segment, followed by the [ENTER] key:

- **Subnet mask:**
• **255.255.255.000**
IP(1):

- Configure the Ethernet interface's Gateway address by entering each segment, followed by the [ENTER] key:

```

• Gateway add:
• 198.168.000.000
IP(1):

```

- Configure the Ethernet interface's DNS 1 address by entering each segment, followed by the [ENTER] key:

```

• DNS 1 add:
• 198.168.056.001
IP(1):

```

- Configure the Ethernet interface's DNS 2 address by entering each segment, followed by the [ENTER] key:

```

• DNS 2 add:
• 198.168.056.002
IP(1):

```

If DHCP is enabled, the IP address may be viewed by following the steps below:

- Using Install Menu option 9 Communications, press [3] and then press [ENTER] to view the Status menu.

```

• 1-Path Status 2-HW Status 3-MM
  Software
  0-Exit, Menu:

```

- Press [2] [ENTER] for "Hardware Status".
- Press [1] [ENTER] for the onboard Ethernet interface.
- Ensure that the Ethernet interface shows "Link OK".

```

• Eth: Link Ok (100 Mbps)
  Press Enter

```

- Press [ENTER] to display the Ethernet interface's IP address programmed.

```

• Eth: IP Addr 192.168.000.117 (dhcp)
  Press Enter

```

- Press [ENTER] to display the Subnet Mask address:

```

• Subnet Mask: 255.255.255.000 (dhcp)
  IP(1): Press Enter

```

- Press [ENTER] to display the Gateway address:

```

• Gateway Add: 198.168.0.00 (dhcp)
  IP(1): Press Enter

```

- Press [ENTER] to display the DNS address 1:

- **DNS 1 Add: 198.168.056.001 (dhcp)**
IP(1):

- Press [ENTER] to display the DNS address 2:

- **DNS 2 Add: 198.168.056.002 (dhcp)**
IP(1):

- Press [ENTER] to display the Ethernet interface's MAC address:

- **Eth: MAC Addr 00:17:55:EE:78:d9**
Press Enter

3. Configuring UltraSync on the ChallengerPlus panel

To configure UltraSync on the ChallengerPlus panel:

- Go into Menu 19 (Install menu) > 9 (Communications) > 4–UltraSync > 4–Auto Setup.

- The following is displayed on the RAS:

○ **Eth. Path: NO**
*–Change

- If using UltraSync via Ethernet, press [*] to toggle the YES/NO value to YES. Press [ENTER] to move to the next option.

- The following is displayed on the RAS:

○ **Radio Path: NO**
*–Change

- If using UltraSync via 4G, press [*] to toggle the YES/NO value to YES. Press [ENTER] to move to the next option.

- The following is displayed on the RAS:

○ **Radio Location: Exp1**
*–Change

- If using UltraSync via 4G, press [*] to toggle the value of the TS1054 4G, which can be either Exp1 or Exp2, depending on where the SIM card that will be used for UltraSync is installed. Press [ENTER] to move to the next option.

- The following is displayed on the RAS:

○ **Run AUTO-SETUP? NO**
*–Change

- Press [*] to toggle the YES/NO value to YES. Press [ENTER] to run the Auto Setup facility.

- The following is displayed on the RAS:

○ **AUTO-SETUP BUSY**
0–Exit,*–Refresh

- Press [*] to refresh the Auto Setup status.

- If UltraSync connection is successful, then the following is displayed on the RAS:

○ **AUTO-SETUP SUCCESS**
Press ENTER

- Press [ENTER] to exit the Auto Setup menu.

Note: If you use “Auto Setup” facility above, UltraSync passcode is set to 00000000. After using “Auto Setup” facility, UltraSync passcode must be changed.

- Go into Menu 19 (Install menu) > 9 (Communications) > 4-UltraSync > 1-Setup. The following is displayed on the RAS:

○ **YES – UltraSync enabled**
*-Change

- Press [ENTER] to move to the next option.
- The following is displayed on the RAS:

○ **Passcode: 00000000**
Pass:

- Enter a passcode for the UltraSync connection, and then press [ENTER].
- To grant full access to CTPlus via UltraSync, parameters below are enabled by default:

- Allow remote connection: Enables remote access between the CTPlus software and the ChallengerPlus panel via UltraSync.

○ **YES – Allow remote connection**
*-Change

- Allow programming if any area is armed: If enabled, user can modify the ChallengerPlus database (when connected via UltraSync) when any areas are armed. Turn off to only allow programming when all areas are disarmed.

○ **YES – Allow programming if any area is armed.**
*-Change

- Allow remote control: If enabled, users can send commands (e.g. open door, lock door etc.) to the ChallengerPlus when connected via UltraSync.

○ **YES – Allow remote control**
*-Change

- Allow firmware upgrade if any area is armed: If enabled, users can upgrade the ChallengerPlus firmware via UltraSync connection when any areas are armed. Turn off to only allow firmware upgrades when all areas are disarmed.

○ **YES – Allow firmware upgrade if any area is armed**
*-Change

- For provisioned panels only, you can also configure Alarm Filter and Test Calls options. These options are used for reporting to control room via UltraSync. For more information, refer to the ChallengerPlus Programming Manual.

○ **1-Alarm filter**
○ **2-Test Calls**

4. Confirm ChallengerPlus is successfully communicating with UltraSync

In ChallengerPlus, the UltraSync connection will cycle through various states, which can be viewed by using a RAS keypad.

Go into Menu 19 (Install menu) > 9 (Communications) > 4–UltraSync > 3–Status > 1–Connection status.

The RAS should display the following text:

Status summary: Non provisioned
0–Exit, No:

The connection status should be “**Non provisioned**” before you can connect to the ChallengerPlus panel from CTPlus using UltraSync.

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Non provisioned	Connected to UltraSync server in non-provisioned mode	✓	✓
Connected	Connected to UltraSync server in provisioned mode but no alarm transmission is possible	✓	✓
Registered	Connected to UltraSync server in provisioned mode	✓	✓
Verifying	Verifying wireless connection		✓
Verified	Wireless connection is verified		✓
(Waiting)	Attempting to connect on path	✓	✓

Connecting to a ChallengerPlus panel from CTPlus

Before setting up your UltraSync connection, ensure that you have followed the previous steps, and that you also have a user and PIN configured on the ChallengerPlus panel.

When connecting over UltraSync, there are 2 configurable stages of authentication:

- UltraSync (serial number and passcode)
- ChallengerPlus panel (user number and PIN)

The UltraSync server will use the serial number and passcode to ensure that the connection between UltraSync and the ChallengerPlus panel is configured correctly, and that you are attempting to connect to the correct panel.

Once the UltraSync authentication has completed successfully, the Challenger panel identifies and authenticates the remote user prior to establishing the UltraSync connection, and then grants access and permissions to the Challenger menus or options accordingly.

In order to grant a user access via UltraSync, they must have – at a minimum – the “Remote access” flag selected in their Alarm Group. Other Alarm Group options, such as menus and areas, will determine what that user is able to do once connected over UltraSync. By default, user 50 will have access to all aspects of the ChallengerPlus panel, so it is important to keep in mind that a separate user with individual permissions should be created and used instead as a measure of best practice.

To connect to a ChallengerPlus panel using CTPlus via UltraSync:

- Click the Panels button on the Panel programming ribbon tab.
- Click the New button on the form's toolbar (if creating a new panel).
- On the Communication tab:
 - Select UltraSync from the Type drop-down list.
 - Enter the Challenger panel's serial number in the Serial number field.
 - Enter the Challenger panel's passcode in the Passcode field (as configured in UltraSync options)
- On the Definition tab:
 - Tick the **Enable** checkbox.
 - Select "TS-CHPLUS – ChallengerPlus" from the **Panel type** drop-down list
 - Select "Authentication" from the **Authentication Type** drop-down list.
 - Enter the User number in the **User** field.
 - Enter the PIN in the **User PIN** field.
 - **Time zone:** If panel is non-provisioned (default), set TZ to your preferred location. If the panel is provisioned (monitored), TZ is not required.
 - Click the Save button on the form's toolbar.

The screenshot shows a software window titled "Panels - 1.1 - CH 1*" with a toolbar at the top containing icons for adding, saving, deleting, and other functions. Below the toolbar, there are two tabs: "Definition" (selected) and "Communication".

Under the "Definition" tab, the following fields are visible:

- Record:** 1
- CH 1:** CH 1
- Enable:** ☒
- Panel type:** TS-CHPLUS - ChallengerPlus
- Account code:** 1
- Authentication type:** Authentication
- Security password:** [masked with dots] **Show**
- User:** 50
- User PIN:** [masked with dots] **Show**
- Time zone:** (UTC+10:00) Australia/Melbourne
- Card format:** Tecom 27 bit