Technical Bulletin

Document #:	ETB0062	**Revision:**	1.00	**Release Date:** 10/05/24
Models:	46-120MK2 / 46-240			**Applicable Serial #:** ALL
Status:	INFORMATIVE			**Recipients:** ALL

46-SERIES FIRMWARE UPDATE V1.2

Models affected:	46-120MK2 / 46-240
Explanation:	New firmware update v1.2

Build history:

V1.2

Web UI added for setup and control.

Bug fix for Mic over Facility priority issue on Zone 4.

Added UI settings for Line 6 and mic priority hold times.

V1.1

Initial production release

Procedure:

To Update the 46-Series mixer-amplifier models:

1. Download the firmware update utility for the desired firmware version, from the 46-120MK2 or 46-240 product pages on the Cloud Electronics website. The 46-120MK2 and 46-240 both use the same firmware updater, and have a common firmware build.

2. The 46-Series amplifier should be connected to an Ethernet TCP/IP network, such that it is accessible from a Windows laptop or PC.

   New units, in factory state, or units which are still set to use DHCP-assigned IP addresses, can be connected directly to the Ethernet port of a laptop / PC, and will use Link-local addressing, as long as the laptop or PC has also been set to use DHCP. They may also be connected to an existing network with DHCP support, where they will automatically be assigned a suitable address.

   Units which have a STATIC IP, will require the IP address and Subnet mask of the laptop/PC to be setup manually, to reflect a different address on the same subnet, so that network communication can take place between the amplifier and the laptop/PC.

   It is recommended that firmware update is always performed on a lightly-loaded network, for the best performance.

   NOTE: The 46-Series units, can also be upgraded via its RS232 serial port, using the same Firmware Updater Utility described in this document. Please see the section at the end of this document, for more details.

3. The 46-Series unit, should be switched on, and be running normally, either in or out of APD state.

4. Run the Firmware Updater Utility .EXE file.

   After the splash screen has disappeared, the main firmware update screen will be shown. Version information for the updater will be shown at the top-left of the main window, and details for the firmware build, can be found by clicking the "More…" button:
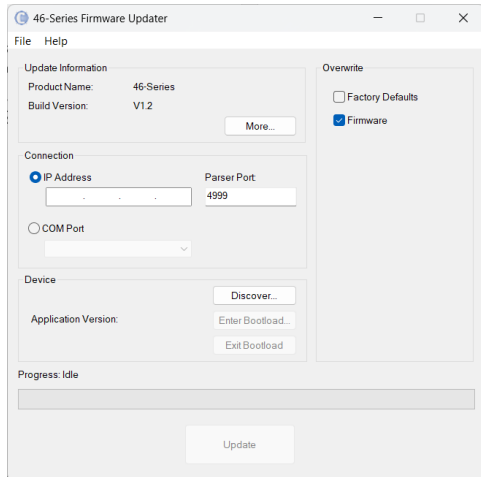

5. Click the "Discover…" button to locate the amplifier you wish to upgrade.

   The discovery dialog will appear, and will list the amplifiers found on the network:
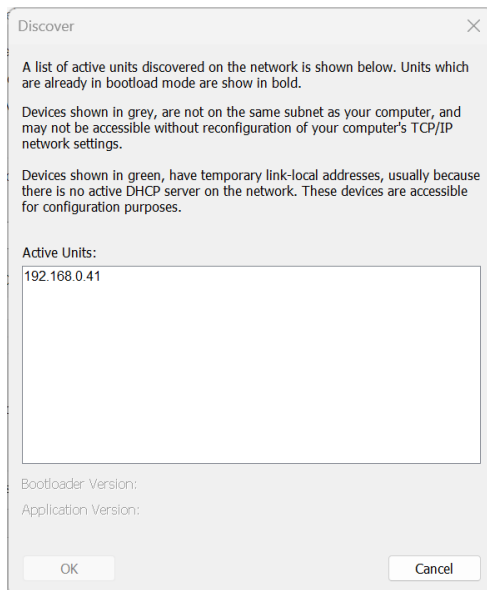
6. If there are multiple entries in the list, identify the unit you wish to update, by double-clicking on it (or selecting it, and pressing the "OK" button)

   A dialog box will appear, with a reminder that the unit will need to be put into bootload mode, before the actual firmware update can take place:
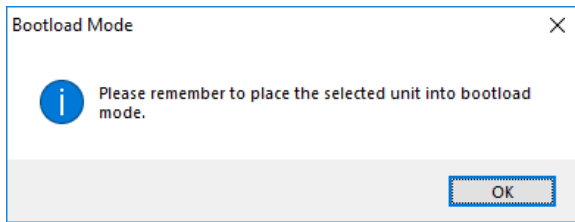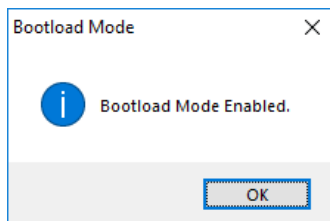
On return to the main application window, the "IP Address" field will be populated with the IP address chosen from the Discover dialog, and the "Enter Bootload…" button should now be enabled.

7. Click on the "Enter Bootload" button, and a dialog box will appear, prompting for the Installer PIN, to unlock the bootloader.
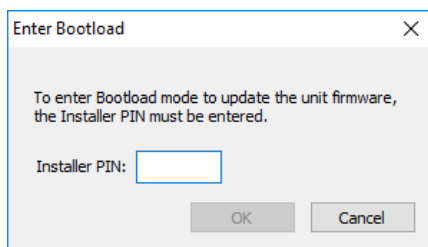
Enter the Installer PIN, and click the "OK" button. After a brief wait, a message should appear, indicating that the amplifier has entered Bootload mode:


Click on "OK" to dismiss the message. After a further wait, the Enter Bootload dialog box will close, and you will be returned to the main application window. The "Enter Bootload…" button will now be disabled, and the "Exit Bootload" and "Update" buttons should be enabled.

8. During the firmware update procedure, there is the option to return the unit to factory default settings. This can be achieved by checking the "Factory Defaults" checkbox, at the top-right of the main application window.

   The "Firmware" checkbox should always remain checked, unless the updater is only being used to force a reset to factory default settings.

9. To start the update procedure, click the "Update" button.

   A warning message will appear:
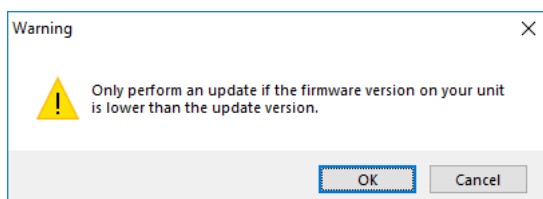
This is the last opportunity to cancel the update. Clicking on the "OK" button, will start the update process.

10. The update consists of 3 stages: Server Application, Server UI, and Factory Defaults. A Progress bar will be updated, to indicate progress through the update.

At the end of a successful update operation, the amplifier should reboot into application mode, and run normally. Additionally, a message will appear in the updater application:
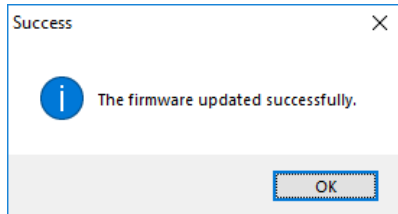
Clicking "OK" will return to the main application window, from where the process can be repeated, if required, for another unit.

If the firmware update fails for any reason, the following message will be displayed:
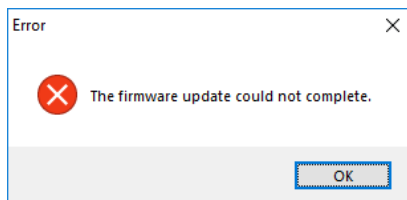
At this point, the unit will remain in bootload mode.

If the update process failed right at the beginning, before any actual changes were made, then it should be possible to return the amplifier to normal operation, by clicking the "Exit Bootload" button on the main application window.

If any changes were made to the amplifier by the firmware update process, then the unit will not allow a return to normal operation, and will remain in bootload mode, until a successful firmware update is completed. The firmware update process, as described in this document, should be repeated.

If the network to which the amplifier is connected, is carrying a lot of network traffic, then this may impair the ability to carry out a firmware update. If the firmware update process seems unnecessarily slow, or prone to repeated failure, it is recommended that the amplifier is removed from the main network, and placed on an isolated network, to minimise unnecessary traffic.

## Using an RS232 serial connection to upgrade the firmware

If a network connection is not available, or cannot be configured correctly, then an RS232 serial connection may be used to upgrade the firmware, via a COM port on the laptop/PC. This method will require a USB serial port adaptor, as most modern computers no-longer feature a hardware COM port. It will also require an RS232 cable compatible with the 3-pin connector on the rear panel of the 46-Series unit, which has a pinout as follows:

| PIN	LABEL	FUNCTION
1	0V	Ground
2	RX	Data from 46-Series to laptop/PC
3	TX	Data from laptop/PC to 46-Series

Note: The 46-Series unit is a DCE (Data Communications Equipment) device, and as such, the RS232 connector pins are labelled from the perspective of the connected laptop/PC. Hence, "RX" is data to be received by the laptop/PC, and "TX" is data transmitted from the laptop/PC.

Once the USB serial port adapter is connected to, and recognised by, the laptop/PC, and the cable is correctly connected to the 46-Series unit, the Firmware Updater Utility .EXE can be run.

After the splash screen has disappeared, and the main application window appears, the connection method should be changed from "IP Address" to "COM Port", via the radio group, located at the centre-left of the window, as shown:
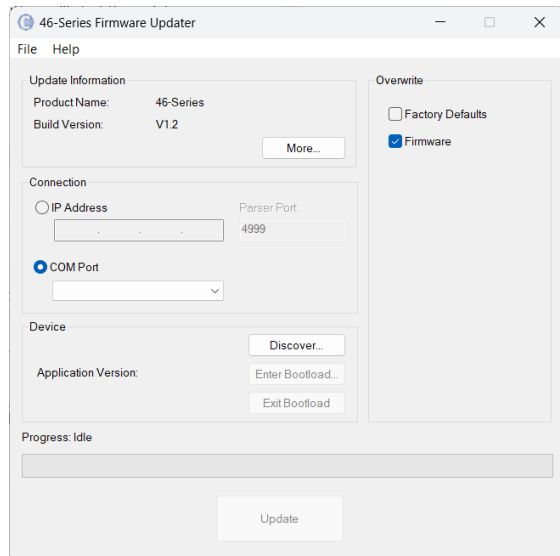
The process for upgrading the firmware, given above, can now be followed from Step 5 onwards. Upon clicking the "Discover..." button, instead of IP addresses being shown, a list of COM ports, on which Cloud 46-Series units have been detected, will be shown, after a few seconds. If there are a lot of COM ports on the laptop/PC, then this process may take a while to scan them:
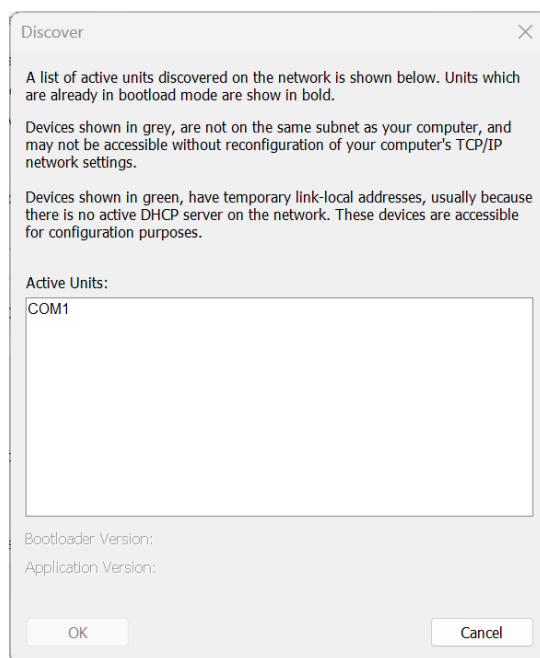
Alternatively, if the COM port to be used is known in advance, the drop-down list next to the COM Port radio button, can be used to pre-select the desired port, and the "Discover…" button need not be clicked.

Note that the bootloader firmware installed on the 46-Series unit will give priority to whichever transport, Ethernet or RS232, that provides data first, ignoring all communications on the other transport. For this reason, the 46-Series unit, should not be connected to Ethernet during an attempt to update the firmware via RS232 – the Ethernet cable should be temporarily unplugged.

Accessing the new Web User Interface

To access the new Web User Interface of the 46-Series, please download the **Cloud Network Discovery Tool** from the 46-120MK2, or 46-240 product pages on the Cloud Electronics website (https://www.cloud.co.uk). Once installed, this can be used to locate the 46-Series unit on the network.
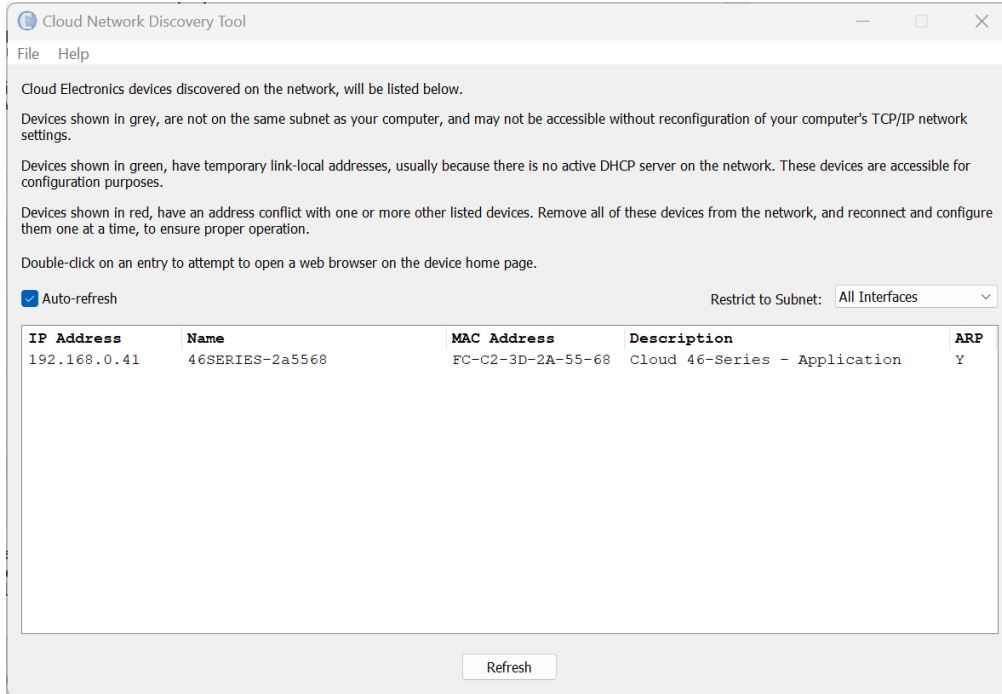
Double-click on the appropriate entry in the list, and the system default browser will be shown, opening automatically on the home page of the Web User Interface.
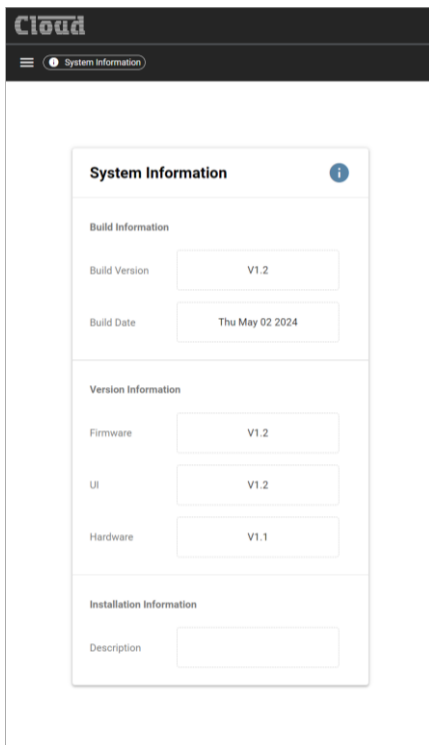
The menu icon at the top left of the header, can be used to open the menu, and select the **Login** option, to configure the settings. There are 3 default PIN-based access codes:

- Installer: **1234**
- Site Administrator: **5678**
- Manager: **2345**

For system configuration, the Installer PIN should be used, as it offers full access to the available settings.