# APPLICATION NOTES

INTEGRATING UNICA WITH OTHER POWERSOFT AMPLIFIERS

# Contents

# INTRODUCTION

This document serves the purpose of providing a comprehensive overview of the network ports configurations featured by the Unica series amplifiers platform to facilitate seamless integration with other Powersoft amplifiers, ensuring compatibility and smooth operation within diverse audio setups and systems.

The Unica Series amplifier is equipped with three 1Gb ethernet ports appropriately labelled: ETH 1 - PoE, ETH 2 and ETH 3.
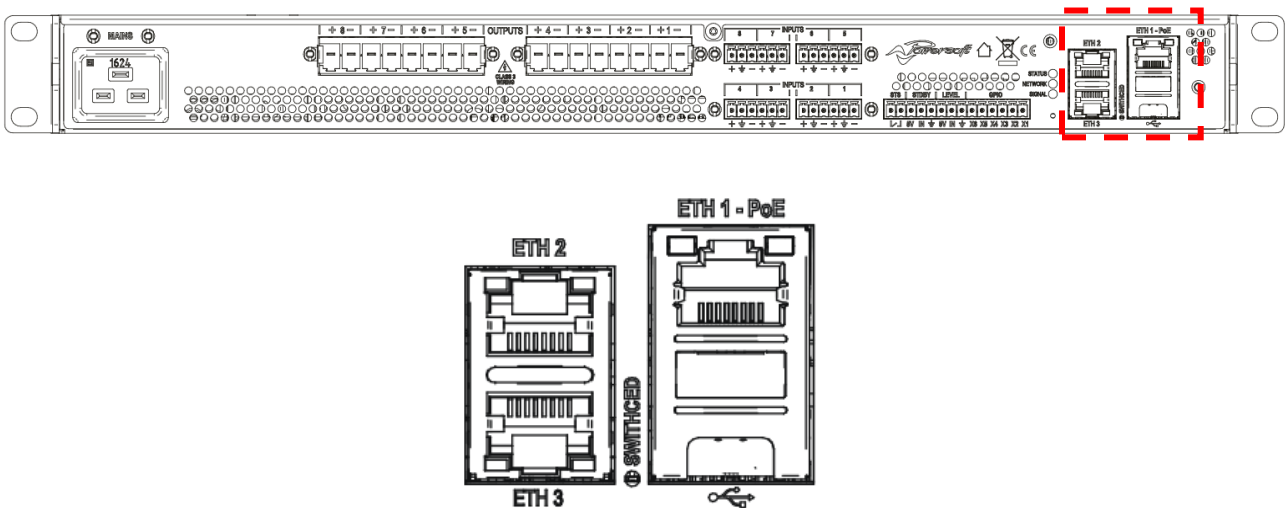


Figure 1 – Rear view of the Unica amplifier and network ports.

These network ports can be configured to operate in **Switched** or Split **Redundant** mode depending on application requirement, ensuring the control within **ArmoníaPlus** along with different network topologies for Dante/AES67 applications.

We strongly recommend following the guidelines outlined in the [Powersoft amplifiers and AoIP](#) application note to properly setup the AoIP network and the associated IT protocols, especially in scenarios involving large, heavily loaded, or mixed networks.

Whether you're establishing a new AoIP network or expanding an existing one, implementing the recommendations from Powersoft's application note will help streamline deployment processes and enhance overall network reliability.

# NETWORK PORT CONFIGURATION

The three network ports on the Unica can be configured to operate in two modes namely:

- Switched
- Split Redundant

The configuration of the network ports on the Unica amplifier is done via the ArmoníaPlus software. accessing the device details page by selecting the cursor option in Workspace view and double clicking the device. From the left-hand panel, select Options and then Networking.
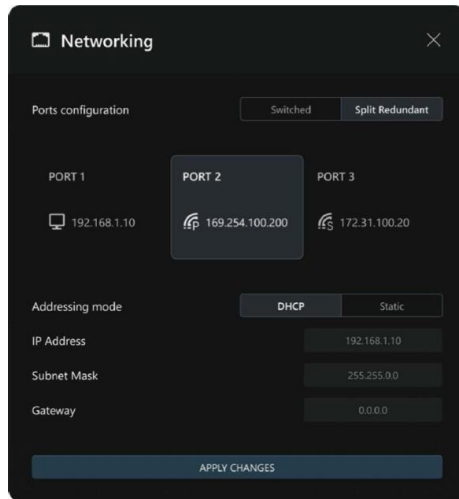


Figure 2 – Unica network port configuration menu on ArmoníaPlus.

## Switched Mode

In **Switched** operation mode, all three network ports on the Unica act as a network switch allowing Unica to be daisy-chained. In this mode there is only **one** IP address assigned for both Control and AoIP, by default to DHCP mode.

**Switched** mode is the standard default mode of the Unica amplifier out of the box or after a network/factory reset.
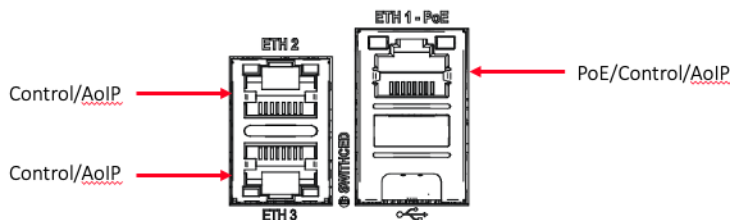


Figure 3 – Switched mode configuration.

# Split Redundant Mode

In **Split-Redundant** mode, the three Unica network ports are assigned to handle different functions as shown below:
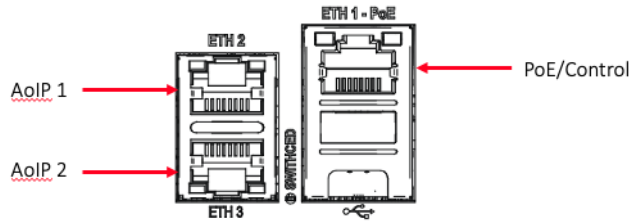


Figure 4 – Split-Redundant mode configuration.

The default IP settings for all three ports is DHCP.

While operating in Split-Redundant mode, it is recommended to separate the network ports of the Unica to a different network switch or separate VLANs to ensure trouble free implementation.

The Dante Embedded Platform on the Unica can handle either Dante or AES67 protocols. Based on the type of audio protocol, ETH 2 and ETH 3 ports on the Unica in Split-Redundant mode have different functions.

**NOTE 1** – While in Split-Redundant mode, control is still available on ETH 2 and ETH 3 ports if needed. Unica will not send any control message on those ports unless a client is connected.

**NOTE 2** – In Switched mode, the same IP address is assigned for both the Control and AoIP protocols. In an event where the user would need separate IP address for Control and AoIP protocols, Split-Redundant mode is recommended.

## Split Redundant Mode - DANTE

In Split-Redundant mode with Dante, ETH 2 will be the primary Dante interface while ETH 3 will be the secondary.

## Split Redundant Mode - AES67

In Split-Redundant mode with AES67 the amplifier does not support redundancy, so ETH 3 on the Unica does not receive any AES67 stream.

# INTEGRATING UNICA WITH OTHER POWERSOFT AMPLIFIERS

Unica amplifiers are designed to be backwards compatible with all Powersoft 2<sup>nd</sup> generation amplifiers in terms of both presets and operation.

## Mixed Use, Unica - Switched Mode

While in Switched mode, all network ports on the Unica carry control and AoIP protocol. In this mode any of the Unica network ports can be connected to the network switch along with other amplifiers such as Mezzo, T Series, X Series, Ottocanali DSP+D also set in Switched Mode. Duecanali and Quattrocanali seires only support split mode so both control and AoIP ports need to be connected to the same switch.
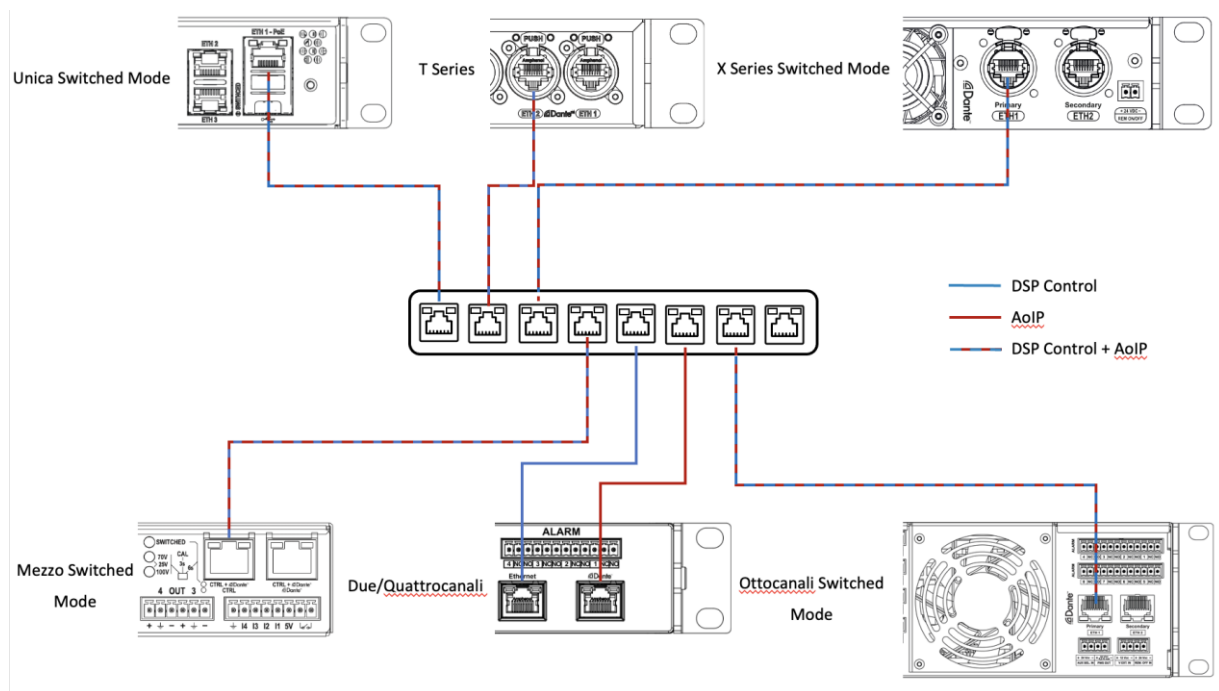


Figure 5 – Network connection of Powersoft Amplifiers with Unica on a network switch.

Since Unica has only one IP address for AoIP and control, ensure that the subnet mask of the network port is set to accommodate both control clients and AoIP clients within the same subnet.

NOTE – Switched mode can be used for a small and low traffic system, however for larger systems or with mixed control systems, video and AoIP traffic, it is recommended to use Split-Redundant mode with a dedicated network for control, video and AoIP traffic.

## Mixed Use, Unica – Split-Redundant Mode

When in Split-Redundant mode, it is advisable to use a physically separated network or separate VLANs for control and AoIP networks. While it is possible to have both control and AoIP ports connected to the same network switch, for trouble-free implementation, it is recommended to split the network.

In Split-Redundant mode, different IP addresses will be assigned to the three network ports on the Unica.

## Unica – Split-Redundant Mode with Duecanali and Quattrocanali

When using the Unica with Duecanali and Quattrocanali amplifiers, ETH 1 of the Unica will reside on the same network switch as the control port of the Duecanali and Quattrocanali, while the AoIP port of the Duecanali and Quattrocanali will reside on the same network switch as the ETH 2 port of the Unica.
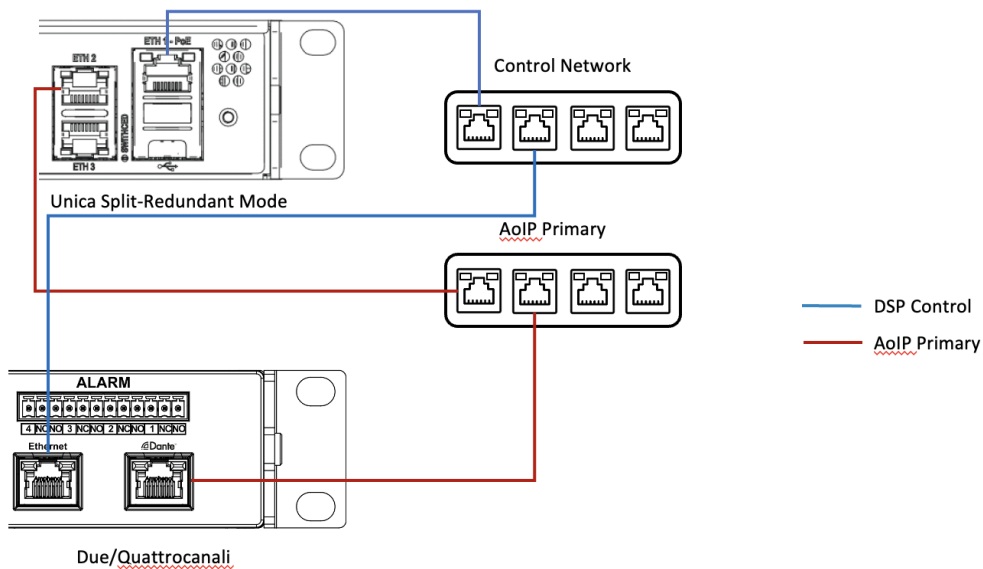


Figure 7 – Unica network connection with Duecanali and Quattrocanali on Split-Redundant mode.

Since the Duecanali and Quattrocanali have no secondary AoIP connection available, the redundant connection on the Unica can be left disconnected.

# Unica – Split-Redundant Mode with Ottocanali

The Ottocanali's secondary (redundant) port for AoIP is available in redundant mode. Since the control port and primary AoIP port of the Ottocanali reside on the same network port it is advisable to connect this port on the AoIP network switch that ETH 2 port of the Unica resides. This practice is true for every amplifier's network port that supports redundant mode with both control and primary AoIP residing on the same port.

If separate VLANs are created for control and AoIP, Asymmetric VLANs need to be enabled and configured properly to enable control communication to be routed to the amplifier using the shared network port for remote control and AoIP such as the Ottocanali DSP+D.
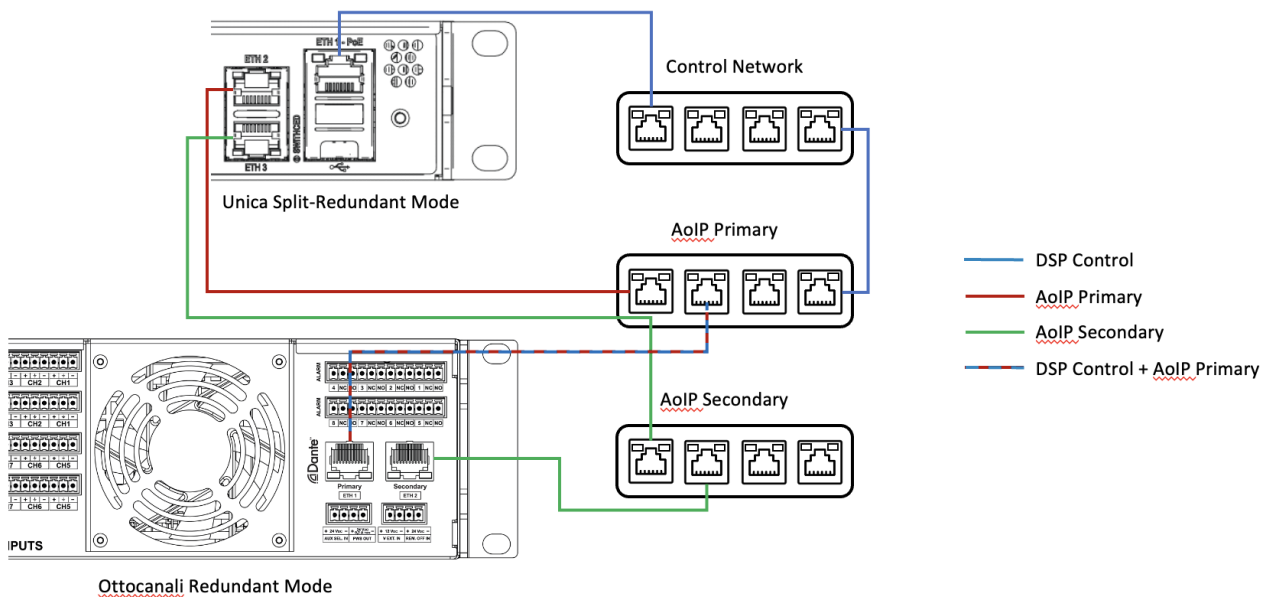


Figure 8 – Unica network connection with Ottocanali on Split-Redundant mode.

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