WPNETTOUCH

COMMANDE NUMÉRIQUE
Écran tactile de contrôle EclerNet

MODE D'EMPLOI

SOMMAIRE

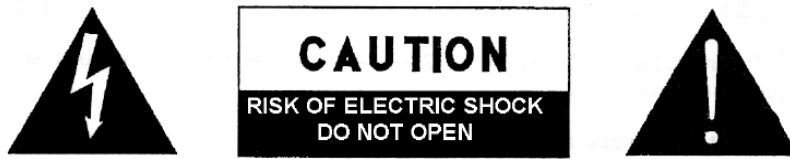# 1 CONSIGNE IMPORTANTE

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: SHOCK HAZARD - DO NOT OPEN
AVIS: RISQUE DE CHOC ÉLECTRIQUE - NE PAS OUVRIR

Le symbole d'éclair à tête de flèche dans un triangle équilatéral sert à prévenir l'utilisateur de la présence dans l'enceinte du produit d'une « tension dangereuse » non isolée d'une grandeur suffisante pour constituer un risque d'électrocution pour les personnes.

Le point d'exclamation dans un triangle équilatéral sert à prévenir l'utilisateur de la présence d'instructions importantes de fonctionnement et de maintenance (entretien) dans les documents accompagnant l'appareil.

AVERTISSEMENT (le cas échéant) : les bornes marquées du symbole « » peuvent véhiculer un courant d'une grandeur suffisante pour constituer un risque d'électrocution. Le câblage externe branché aux bornes doit être installé par une personne formée à cet effet ou des câbles ou cordons prêts à l'emploi doivent être utilisés.

AVERTISSEMENT : pour réduire le risque d'incendie et de choc électrique, n'exposez pas cet appareil à la pluie ou à l'humidité.

AVERTISSEMENT : un appareil à construction de Classe I doit être branché à une prise secteur avec fiche de terre.

2 INSTRUCTIONS DE SÉCURITÉ IMPORTANTES

1. Lisez ces instructions.
2. Conservez ces instructions.
3. Tenez compte de tous les avertissements.
4. Suivez toutes les instructions.
5. N'utilisez pas cet appareil avec de l'eau à proximité.
6. Nettoyez-le uniquement avec un chiffon sec.

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7. Ne bloquez aucune ouverture de ventilation. Installez-le conformément aux instructions du fabricant.

8. Ne l'installez pas près de sources de chaleur telles que des radiateurs, bouches de chauffage, poêles ou autres appareils (y compris des amplificateurs) dégageant de la chaleur.

9. Ne neutralisez pas la fonction de sécurité de la fiche polarisée ou de terre. Une fiche polarisée a deux broches, l'une plus large que l'autre. Une fiche de terre a deux broches identiques et une troisième broche pour la mise à la terre. La broche plus large et la troisième broche servent à votre sécurité. Si la fiche fournie n'entre pas dans votre prise, consultez un électricien pour le remplacement de la prise obsolète.

10. Évitez de marcher sur le cordon d'alimentation et de le pincer, en particulier au niveau des fiches, des prises secteur, et du point de sortie de l'appareil.

11. N'utilisez que des fixations/accessoires spécifiés par le fabricant.

12. Débranchez cet appareil en cas d'orage ou de non-utilisation prolongée.

13. Confiez toute réparation à des techniciens de maintenance qualifiés. Une réparation est nécessaire si l'appareil a été endommagé d'une quelconque façon, par exemple si le cordon ou la fiche d'alimentation est endommagé, si du liquide a été renversé sur l'appareil ou si des objets sont tombés dedans, si l'appareil a été exposé à la pluie ou à l'humidité, s'il ne fonctionne pas normalement, ou s'il est tombé.

14. Déconnexion du secteur : l'interrupteur POWER coupe les fonctions et les voyants de l'appareil, mais la déconnexion électrique totale s'effectue en débranchant le cordon d'alimentation de la prise secteur. C'est la raison pour laquelle vous devez toujours y avoir facilement accès.

15. L'appareil est relié à une prise de courant avec mise à la terre au moyen d'un cordon d'alimentation.

16. Les informations de marquage se trouvent sous l'appareil.

17. L'appareil ne doit pas être exposé à des ruissellements d'eau ni à des éclaboussures, et aucun objet rempli de liquide tel qu'un vase ne doit être placé sur lui.

18. Ce produit ne peut être utilisé qu'à l'intérieur.

AVERTISSEMENT : ce produit ne doit en aucun cas être jeté avec les déchets ménagers non triés. Rapportez-le au centre de traitement des déchets électriques et électroniques le plus proche.

NEEC AUDIO BARCELONA, S.L. décline toute responsabilité pour les dommages qui pourraient être causés aux personnes, animaux ou objets suite au non-respect des avertissements ci-dessus.

3   REMARQUE IMPORTANTE

Merci d'avoir sélectionné notre **dispositif de commande numérique EclerNet WPNETTOUCH**.

Il est **TRÈS IMPORTANT** de lire attentivement ce mode d'emploi et d'en comprendre parfaitement le contenu avant toute connexion afin de maximiser votre utilisation et de tirer les meilleures performances de cet équipement.

Pour garantir un fonctionnement optimal de cet appareil, nous vous recommandons de faire assurer sa maintenance par nos services techniques agréés.

Tous les produits ECLER bénéficient de garantie, veuillez-vous référer sur www.ecler.com ou la carte de garantie incluse avec cet appareil pour la période de validité et ses conditions.

4   INTRODUCTION

Le WPNETTOUCH est un appareil de la famille EclerNet qui peut être programmé pour contrôler un ou plusieurs appareils EclerNet en réseau ; il peut même contrôler une installation complète, un projet combinant une multitude d'appareils EclerNet différents : matrices numériques MIMO4040DN, MIMO88, MIMO88SG, MIMO1212SG, gestionnaires audio numériques de la série NXA, unités DUO-NET PLAYER, etc. Il est entièrement programmable au moyen de l'application EclerNet Manager *(*)*.

(*) Référez-vous au mode d'emploi de l'application EclerNet Manager sur www.ecler.com pour plus d'informations. L'application EclerNet Manager est téléchargeable sur www.ecler.com.

Le WPNETTOUCH peut être installé au mur à l'aide du support VESA75 fourni ou de tout autre support ou fixation compatible VESA75.

Il possède un écran tactile capacitif de 10" (25,4 cm) affichant les panneaux de contrôle graphiques (UCP) qui ont été programmés pour l'utilisateur dans l'application EclerNet Manager, et dont l'utilisateur final se servira pour contrôler l'installation.

4.1   Caractéristiques principales

- Écran IPS de 10,1", résolution de 1280x800 pixels
- Rapport d'aspect de 16:9
- Dalle tactile capacitive multipoint
- Compatible avec une alimentation par Ethernet (PoE)
- Compatible avec une alimentation externe (adaptateur secteur universel externe + jeu de multiples broches secteur fournis)
- Interface Ethernet Base-Tx 10/100 Mbit

5 INSTALLATION ET BRANCHEMENTS

5.1 Installation

Le WPNETTOUCH peut être monté sur une surface et sur un bureau :

- Montage en surface : un support de fixation murale VESA75 est fourni avec le produit. Il est composé de deux parties : la plaque métallique qui doit être montée en face arrière de l'unité WPNETTOUCH au moyen des 4 vis incluses, et la plaque métallique qui doit être fixée au mur ou à la surface. Une fois les deux plaques montées et bien fixées, on peut les emboîter pour installer l'unité et visser la vis de sécurité fournie avec l'outil inclus à cet effet.
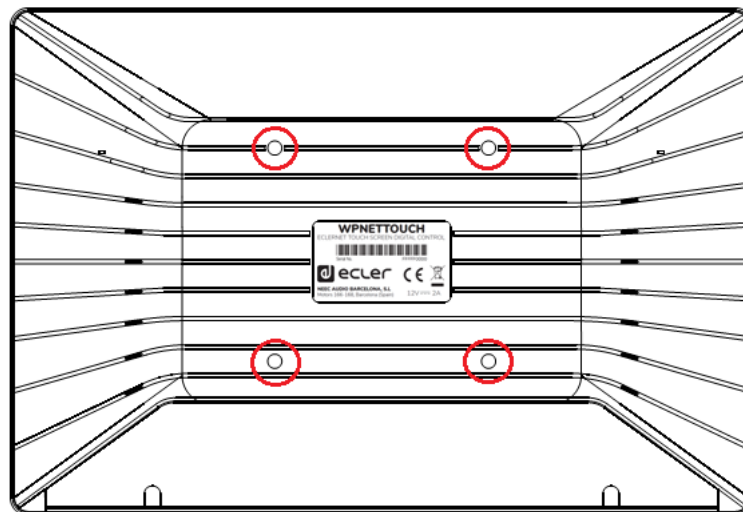
Remarque : la norme VESA75 permet de monter le WPNETTOUCH au moyen d'autres supports ou fixations VESA75.

- Montage sur bureau : l'unité comprend un support en forme de tige qui peut être vissé dans un filetage de la face arrière du WPNETTOUCH, une fois que le cache des connexions de la face arrière a été retiré (il est fixé par 2 vis). Une fois installée, cette tige permet de maintenir le WPNETTOUCH en position proche de la verticale sur une surface de travail.

5.2 Connexions

Le WPNETTOUCH a 2 connecteurs disponibles pour le fonctionnement d'EclerNet. Les deux se trouvent derrière le cache en plastique des connexions de la face arrière, fixé au WPNETTOUCH par 2 vis :

- Alimentation CC : prise ronde pour brancher l'adaptateur secteur universel, CC12 V, 2 A, fourni avec le produit.
- Port Ethernet : connecteur RJ45 de l'interface de communication réseau de l'unité, compatible avec une alimentation CC par Ethernet (PoE) pour les cas où le switch réseau peut lui fournir une alimentation PoE. Il peut être directement connecté (point à point) à un unique appareil EclerNet, pour son contrôle direct et exclusif, ou à un port d'un switch Ethernet appartenant au réseau auquel sont connectés les autres appareils EclerNet de l'installation. Le câble de connexion peut être un câble standard ou croisé de type CAT5 ou supérieur.

6   FONCTIONNEMENT

Dans l'application EclerNet Manager, il est possible de créer des panneaux de contrôle (UCP) déportés pour le système afin de gérer une ou plusieurs unités MIMO4040DN, MIMO88, MIMO88SG, MIMO1212SG, NXA, DUO-NET PLAYER, etc. dans une installation en réseau. Chaque panneau peut comporter une ou plusieurs pages incluant des graphiques, du texte, des commandes de volume, boutons, VU-mètres, indicateurs à LED, etc. Ainsi, chaque utilisateur distant peut avoir son ou ses propres panneaux de contrôle adaptés à ses besoins et autorisations, et dans un même système, des panneaux de contrôle très simples destinés à certains utilisateurs peuvent coexister avec d'autres, plus complexes et offrant des niveaux d'accès supérieurs.

Une fois les UCP créés, inclus dans un projet EclerNet, le réseau a besoin d'un serveur web pour les potentiels clients web qui contrôleront l'installation grâce aux UCP qu'ils peuvent récupérer auprès du serveur web pour les gérer et les visualiser localement. Le serveur web peut être un de ces types d'appareil :

- Une unité WPNETTOUCH exécutant le projet EclerNet créé au préalable avec l'application EclerNet Manager.
- Une unité WPmSCREEN exécutant le projet EclerNet créé au préalable avec l'application EclerNet Manager.
- Une matrice MIMO4040DN exécutant le projet EclerNet créé au préalable avec l'application EclerNet Manager (en effet, le MIMO4040DN comprend dans son moteur à la fois les fonctionnalités de projet et de serveur web UCP !).

- Un PC sous Windows® exécutant le projet EclerNet Manager créé en mode « Déploiement ».

*Remarque : il est important de noter qu'il ne peut exister dans un même réseau qu'un seul de ces appareils exécutant l'application EclerNet Manager et le même projet, et **jamais plusieurs à la fois**, quel qu'en soit le type, car cela entraînerait des conflits, chacun tentant de prendre le contrôle des équipements (MIMO4040DN, MIMO88, NXA, etc.) inclus dans le projet.*

Quant aux clients web, ils peuvent être des types suivants :

- Le WPNETTOUCH ou WPmSCREEN principal lui-même (le cas échéant) qui agit comme serveur web peut être son propre client web
- Des unités WPNETTOUCH / WPmSCREEN supplémentaires, activées comme clients web
- Le PC (le cas échéant) qui agit comme serveur web peut être son propre client web
- Des ordinateurs, tablettes et équivalents, exécutant un navigateur Internet (Internet Explorer, Google Chrome, Mozilla Firefox, etc.)
- Des appareils avec système d'exploitation Android (tablettes, smartphones), exécutant l'appli Ecler UCP v2
- Des appareils sous Apple iOS (iPad, iPhone, etc.), exécutant l'appli Ecler UCP v2

N'importe lequel d'entre eux peut récupérer et faire fonctionner des UCP en pointant vers l'adresse IP du serveur web.

Différents clients web peuvent simultanément charger différents UCP et piloter le projet en même temps, chacun contrôlant une partie du système.

Remarque : veuillez consulter le mode d'emploi de votre application EclerNet Manager, sur www.ecler.com, chapitres USER CONTROL PANELS (U.C.P.) et WPNETTOUCH DEVICE pour plus d'informations sur la programmation des panneaux UCP et le WPNETTOUCH.

Remarque : l'application EclerNet Manager est disponible sur www.ecler.com.

7   CONFIGURATION LOCALE DE L'UNITÉ

Les réglages et menus de configuration du WPNETTOUCH sont accessibles localement depuis le propre écran tactile de l'appareil. Les mêmes réglages sont accessibles à distance lorsque l'écran est sous le contrôle d'un ordinateur exécutant l'application EclerNet Manager.

L'accès local aux menus de configuration s'obtient en cliquant sur l'icône SETUP (configuration) qui a la forme d'une roue dentée en page d'accueil de l'unité :

Les menus de configuration disponibles sont les suivants :
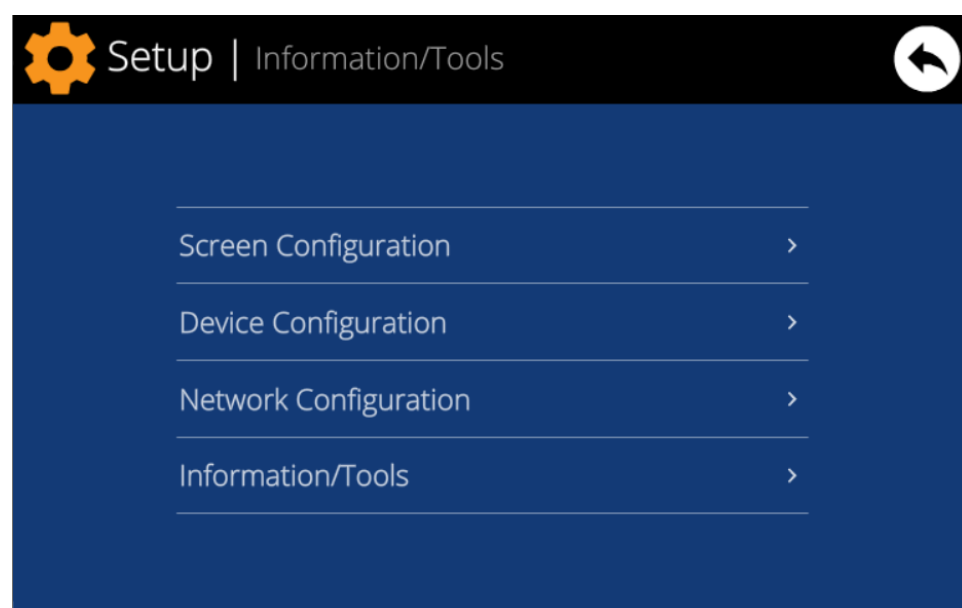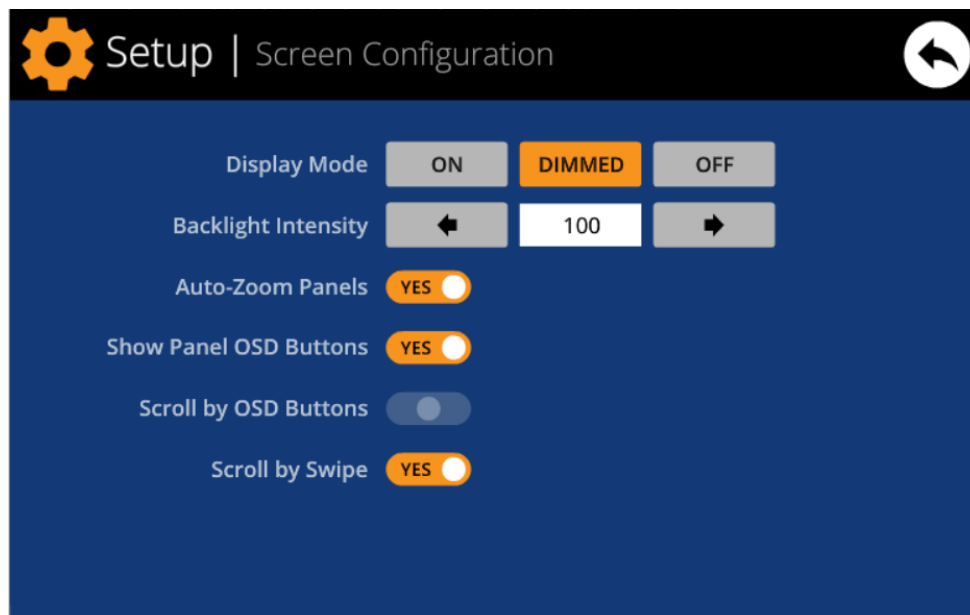
Ce menu permet de régler différents paramètres affectant les éléments et commandes affichés sur l'écran de l'unité :

- **Display mode :** comportement de l'écran en matière d'atténuation en mode de veille, après 10 secondes sans action de l'utilisateur sur l'écran tactile. Les modes disponibles sont : ON (toujours allumé), DIMMED (atténué) et OFF (éteint).
- **Backlight Intensity :** intensité du rétroéclairage de l'écran quand il n'est pas en mode de veille.
- **Auto-Zoom Panels :** quand cette option est activée, les panneaux graphiques de contrôle (UCP) sont automatiquement redimensionnés pour exploiter au mieux la surface visible maximale, quelle que soit la résolution avec laquelle ils ont été créés à l'origine dans le fichier projet EclerNet Manager.

- **Show Panel OSD Buttons :** active/désactive l'affichage en superposition des boutons de navigation dans les coins des UCP affichés. Les boutons des coins supérieurs permettent de faire défiler les pages du panneau (gauche et droite) et les boutons des coins inférieurs d'accéder à la barre d'icônes :

Remarque : même si les boutons ne sont pas affichés, ils peuvent rester actifs, donc presser les coins supérieurs active le défilement horizontal d'une page de panneau à l'autre et presser les coins inférieurs affiche la barre d'icônes. C'est un aspect qui doit être pris en compte pour l'agencement des commandes (boutons, curseurs, commandes rotatives, etc.) durant la conception de chaque page d'UCP ; les coins doivent rester si possible vides si ces boutons d'écran doivent être utilisés pour changer de page (boutons du haut) et l'être obligatoirement en ce qui concerne ceux du bas (affichage de la barre d'icônes).

- **Scroll by OSD Buttons :** active/désactive le défilement des pages par pression sur les coins supérieurs, même lorsque les boutons d'écran sont masqués.
- **Scroll by Swipe :** active/désactive le défilement des pages par balayage (toucher et glisser) vers la gauche ou la droite sur l'écran.

La barre d'icônes affiche de nouveaux accès au défilement horizontal entre les pages d'un panneau (vers la gauche et la droite), l'accès à la page d'accueil de l'unité (icône de « maison ») et la fermeture de la barre d'icônes (icône « X ») :
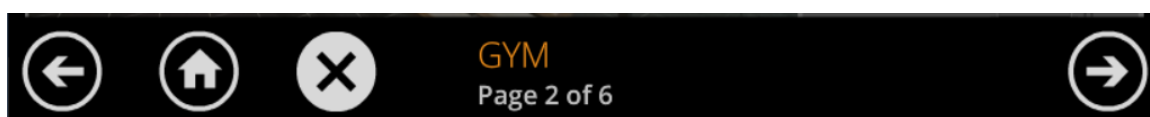
7.2 Menu de configuration d'appareil (Device Configuration)
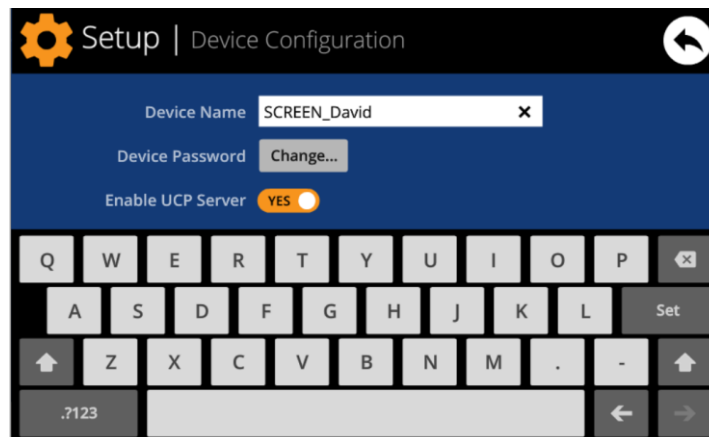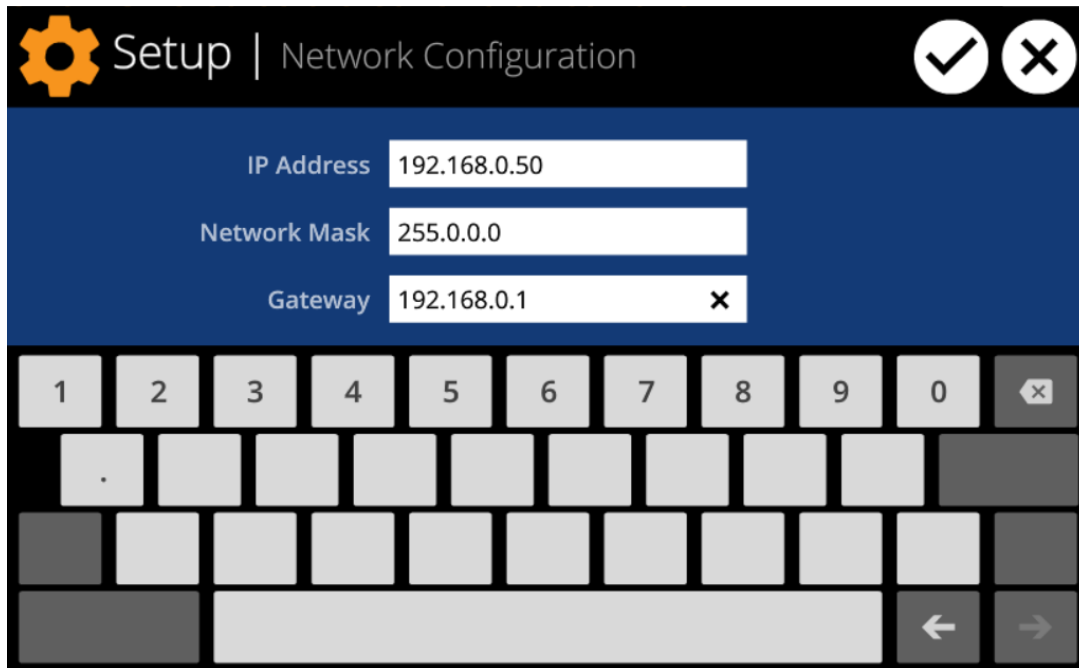
Ce menu permet de régler les paramètres suivants de l'appareil :

- **Device Name :** nom de l'appareil, tel qu'il s'affiche sur les autres WPNETTOUCH / WPmSCREEN ainsi que dans l'application EclerNet Manager.
- **Device Password :** mot de passe pour la protection de l'appareil contre la modification de ses paramètres essentiels de configuration, et qui est demandé s'il est activé (c'est-à-dire si le mot de passe n'est pas vierge).
- **Enable UCP Server :** active/désactive le serveur UCP intégré à l'unité.

  - **Activé (Yes) :** le projet EclerNet conservé dans l'unité (projet local ou « Local Project ») sera entièrement fonctionnel, prenant le contrôle des appareils qui y sont inclus (unités MIMO4040DN, MIMO88, NXA, etc.) et fournissant les panneaux UCP qu'il contient aux éventuels clients UCP sur le réseau.
  - **Désactivé (No) :** le projet local EclerNet est désactivé, de même par conséquent que le contrôle sur tous les appareils inclus (unités MIMO4040DN, MIMO88, NXA, etc.) et il cesse donc de fournir les USP aux clients.

    Avertissement : quand ce paramètre est désactivé, un autre équipement ou ordinateur exécutant un projet faisant appel à tout ou partie des appareils concernés par le projet local du WPNETTOUCH pourra en prendre le contrôle. **Un appareil ne peut être contrôlé que par un seul autre équipement et projet à la fois**, donc les unités contrôlées par un équipement doivent d'abord être libérées avant de pouvoir les contrôler depuis un autre :
      - Dans EclerNet Manager, vous pouvez libérer les appareils contrôlés par l'ordinateur en créant un nouveau projet (File -> New Project), ou en les déconnectant un par un du réseau (bouton droit de la souris -> Disconnect).
      - Sur un WPNETTOUCH / WPmSCREEN, vous pouvez libérer les appareils contrôlés par l'unité en réglant l'option « Enable UCP Server » sur « NO ».

Ce menu permet de changer les paramètres de connexion au réseau du WPNETTOUCH :
IP Address (adresse IP), Network Mask (masque réseau) et Gateway (passerelle).

Remarque : ni le WPNETTOUCH ni aucun autre appareil EclerNet ne prennent en
charge le protocole d'attribution automatique d'adresse IP (Dynamic Host Configuration
Protocol ou DHCP), donc il faut toujours leur attribuer manuellement des adresses
statiques

7.3.1 Paramètres réseau prédéfinis d'usine

Les paramètres réseau prédéfinis d'usine pour les appareils compatibles avec le
gestionnaire EclerNet sont les suivants :

- IP: 192.168.0.100
- Mask: 255.255.255.0
- Gate: 192.168.0.1
- UDP Port: 2210

.
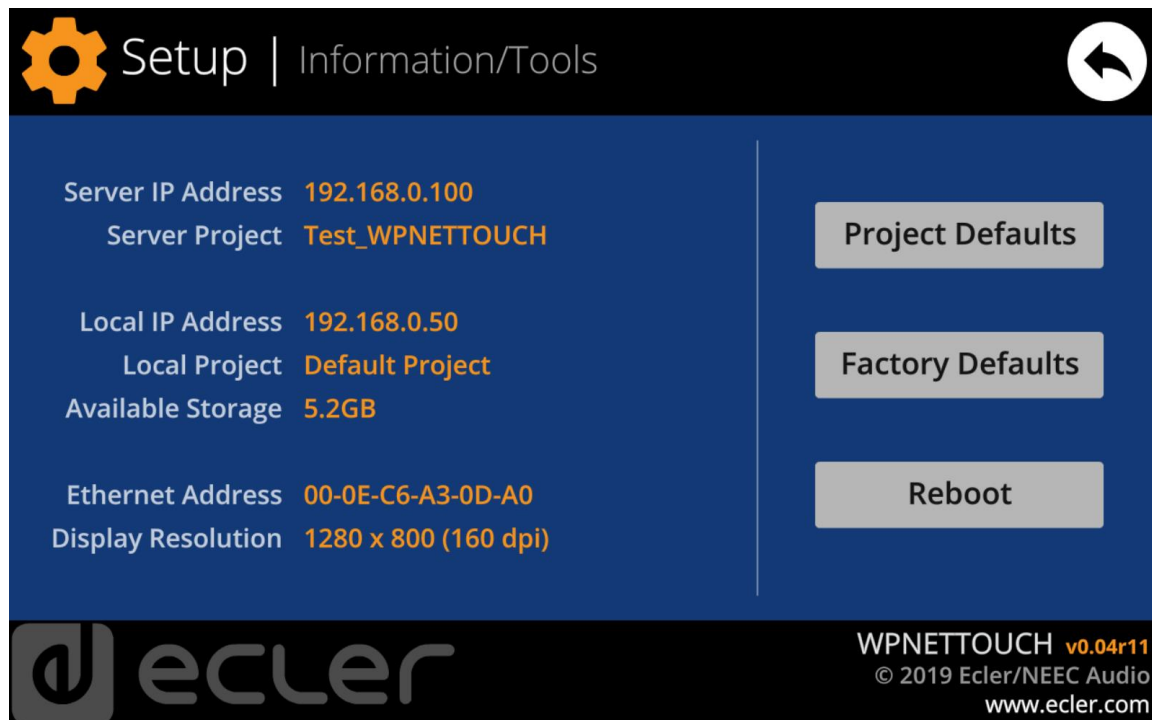
Ce menu affiche les informations suivantes :

- **Server IP Address :** adresse IP de l'appareil serveur UCP auquel l'unité est connectée en tant que client UCP. Lorsque l'unité est connectée à elle-même en tant que client, elle affiche sa propre adresse IP (= Local IP Address).
- **Server Project :** nom du projet exécuté sur le serveur auquel l'unité est connectée comme client UCP (projet exécuté sur le serveur UCP du client).
- **Local IP Address** : adresse IP configurée pour le WPNETTOUCH.
- **Local Project :** nom du projet conservé dans l'espace de stockage interne du WPNETTOUCH. Ce projet peut être téléversé dans le WPNETTOUCH au moyen de l'appli EclerNet Manager.
- **Available Storage :** espace de stockage interne disponible pour téléverser un fichier de projet qui doit inclure les données et graphiques des panneaux de contrôle utilisateur (User Control Panels ou UCP).
- **Ethernet Address :** adresse MAC de la carte d'interface réseau (NIC) montée dans le WPNETTOUCH.
- **Display resolution :** résolution d'écran native de la dalle IPS de l'unité (1280 x 800).
- **Version du firmware :** affichée dans le coin inférieur droit (v0.04r11 dans l'exemple ci-dessus).

Et les options de restauration/redémarrage suivantes :

- **Project Defaults :** efface le projet en mémoire, le remplaçant par un projet vierge après vous avoir averti que le processus est irréversible :
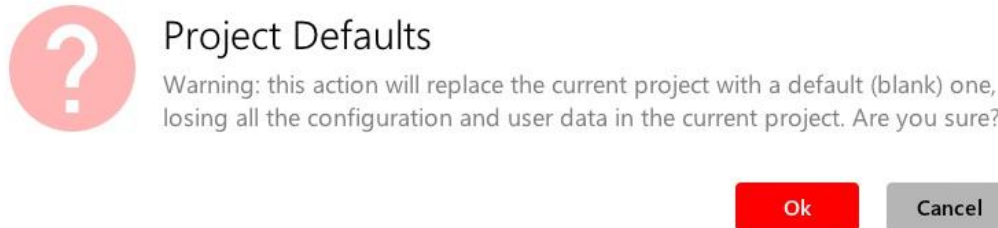
- **Factory Defaults :** efface toute la configuration et toutes les données de l'unité, restaurant les réglages d'usine par défaut après vous avoir averti que le processus est irréversible :
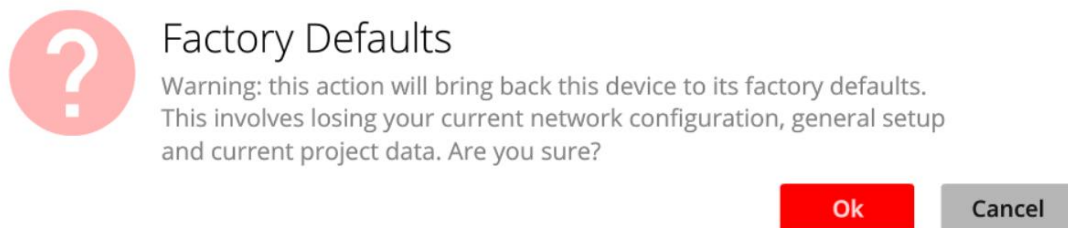
- **Reboot :** fait redémarrer l'unité :
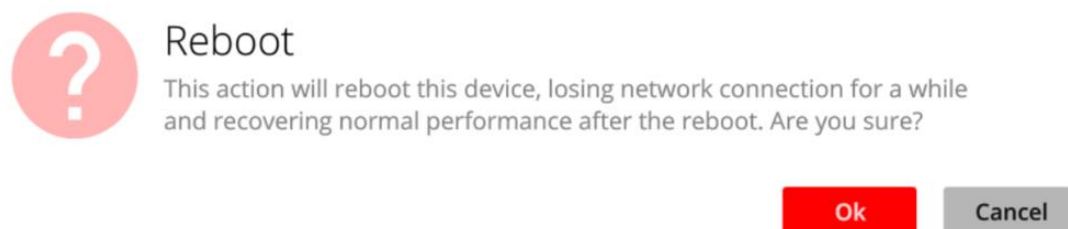
8 CONNEXION À UN SERVEUR UCP

Dans l'écran d'accueil de l'unité, l'icône de connexion en haut de l'écran donne accès à la page de connexion :
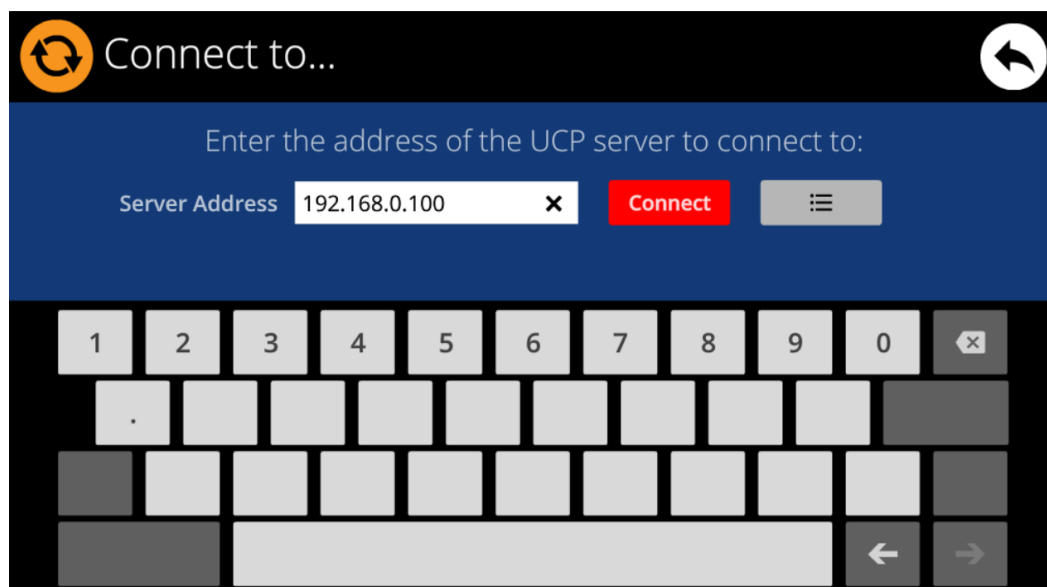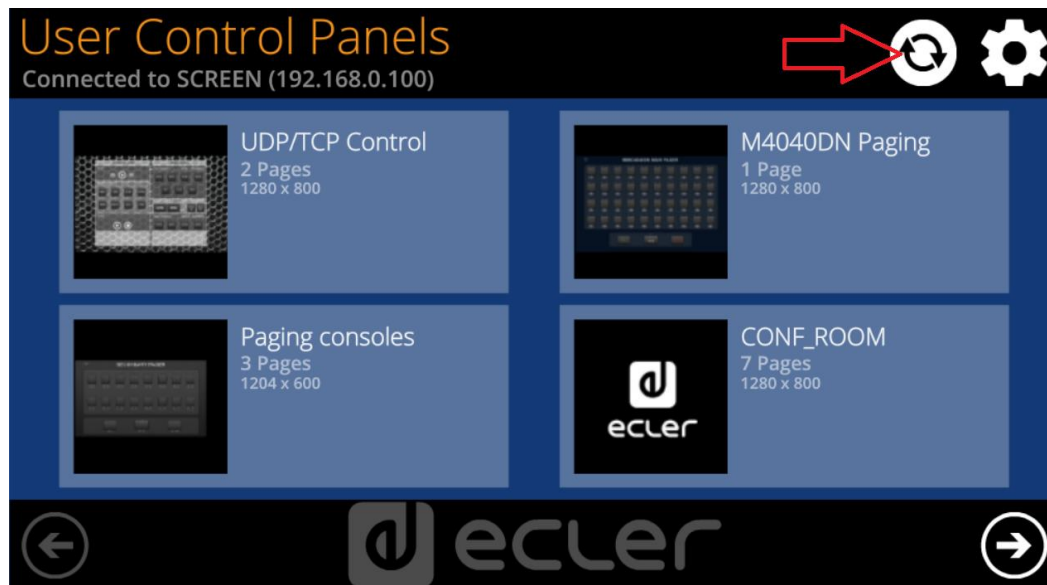
Cette page permet de choisir le serveur UCP auquel l'unité se connectera comme client. Le serveur UCP peut être un ordinateur, une matrice MIMO4040DN (en effet, elle a un serveur UCP intégré à son moteur !), une autre unité WPNETTOUCH / WPmSCREEN ou la même unité WPNETTOUCH. Dans tous les cas, le serveur UCP doit héberger et exécuter un projet EclerNet Manager incluant une série d'UCP qui peuvent être gérés à distance par n'importe quel client UCP.

Il est possible de saisir directement l'adresse IP de l'appareil serveur à l'aide du clavier tactile affiché à l'écran ou de sélectionner un appareil dans une liste de serveurs ayant été automatiquement détectés, liste à laquelle on accède en cliquant sur le bouton gris à icône de liste à droite du bouton « Connect » :
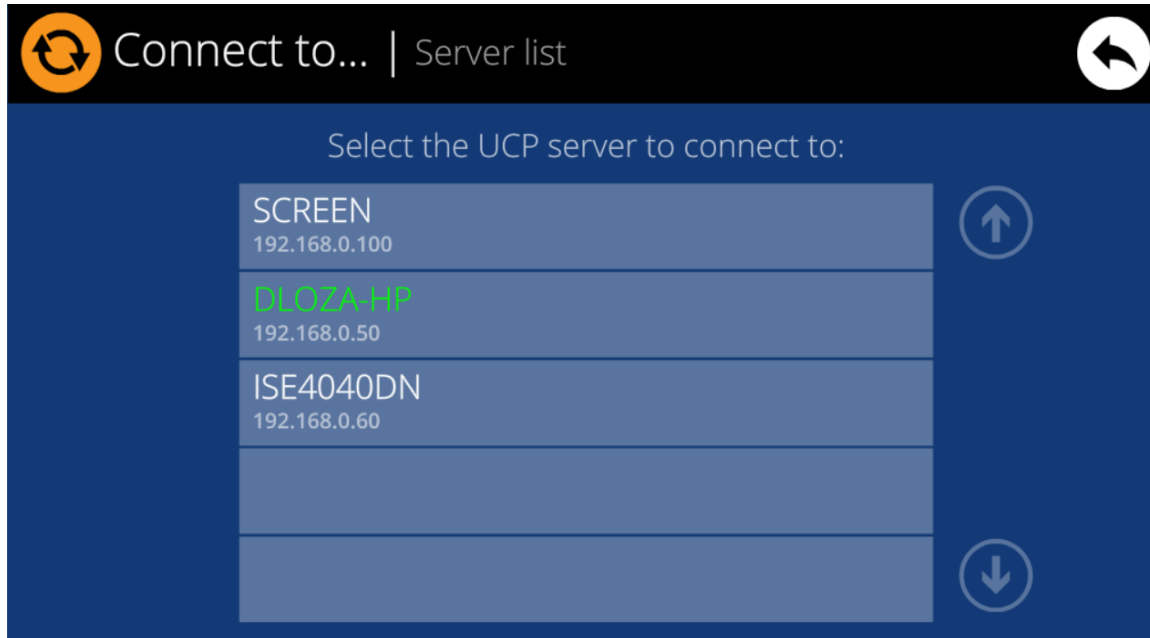
Remarque : dans la liste des appareils serveurs détectés, le nom du WPNETTOUCH utilisé apparaît en vert (c'est celui qui correspond à l'adresse IP locale).

Après avoir sélectionné un serveur ou une adresse IP à l'aide de l'une de ces deux méthodes, presser le bouton « Connect » confirmera la sélection et lancera le processus de connexion au serveur. Si ce processus aboutit, les UCP que le serveur met à disposition du client WPNETTOUCH apparaissent à l'écran :
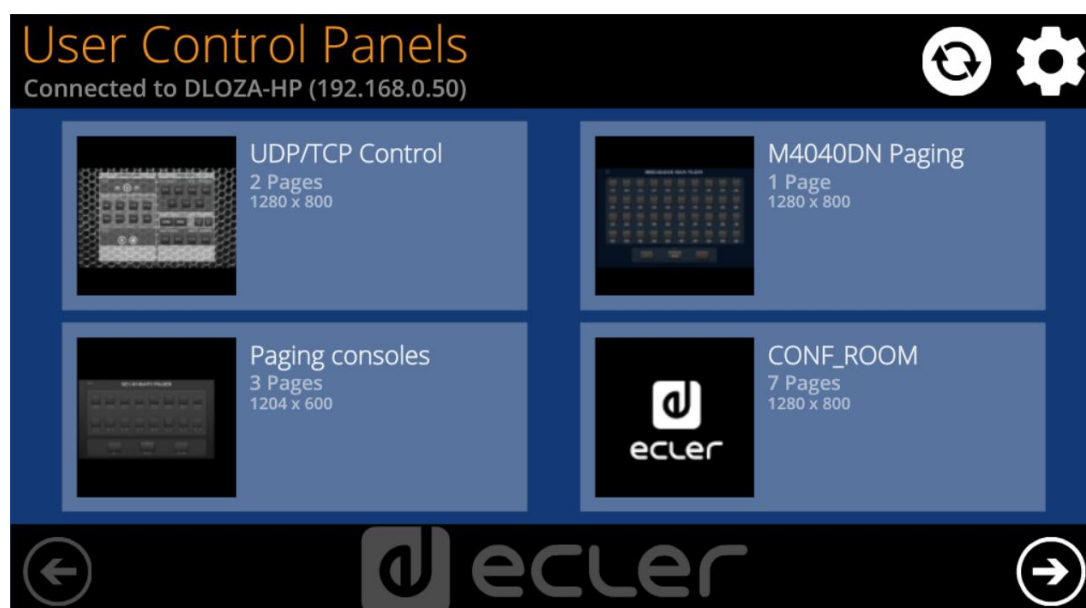
9   CONTENU DE L'EMBALLAGE

1. **WPNETTOUCH**
2. **Adaptateur secteur universel externe, multiples broches secteur**
3. **Support mural VESA75 + jeu de vis + vis de sécurité + outil**
4. **Support de table en forme de tige**
5. **Guide de prise en main et carte de garantie**

10 LISTE DES FONCTIONS

1. Écran tactile multipoint
2. Trous de fixation pour vis VESA75
3. Trou de fixation du support de table en forme de tige
4. Connecteur d'alimentation
5. Connecteur RJ45 de port Ethernet
6. Connexions inutilisées

11 SCHÉMA FONCTIONNEL
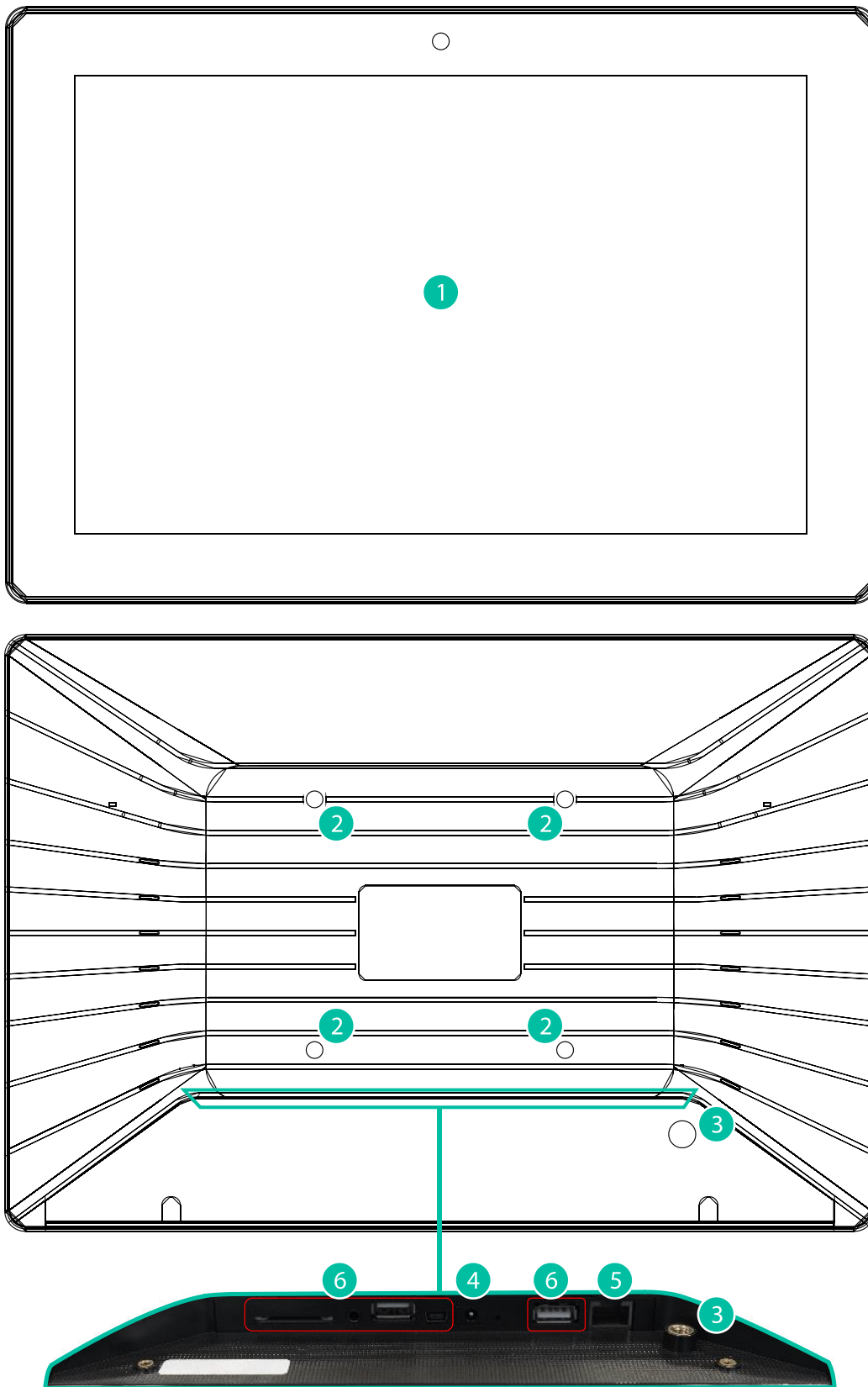
12 CARACTÉRISTIQUES TECHNIQUES

System	
CPU	RK3128 quad core processor, clocked 1.6G
RAM	1GB
ROM	8GB
Screen	
Size	10,1" IPS
Resolution	1280x800
Contrast ratio	1300
Brightness	300cdm2
Screen scale / Display area	16:9 / 218x135mm
Backlight	LED
Touch-panel	Capacitive multi-touch
Network & Connectivity	
Ethernet	Supports PoE
Ethernet port	Ethernet Base-Tx 10/100Mb / 1GB CAT5e or better up to 100m.
Power	
External power supply voltage	12VDC
DC current (max)	350mA from 12V External Power Supply Voltage 125mA from PoE
Mains power consumption	6W
General	
Bracket mounting holes	VESA 75mm
Dimensions WxHxD	260x178x28 mm / 10.2"x7.0"x1.1"
Weight	700 gr / 1.54 lb.
Accessories included	
AC power adapter	100-240VAC 50-60Hz 12V / 2A, multi-plug
Mounting systems	VESA75 and desktop

TP-NET PROTOCOL

SOFTWARE

Third-Party NET

USER MANUAL

13 TP-NET PROTOCOL INTRODUCTION

The TP-NET protocol lets a client device (control device) get and/or set the values of several parameters of the **EclerNet compatible devices** (MIMO and MIMO SG series digital matrices, DUO-NET PLAYER, NXA digital audio manager series, NZA amplifier series, NPA amplifier series, etc.), like volumes, mutes, alarms, etc. It's as well available for **eMIMO1616 digital matrix, HUB series digital zoner, MIMO7272DN and MIMO4040CDN digital matrix**.

The communication with these digital audio devices can be established using Ethernet and the UDP/IP transport protocol, always by means of the **5800** UDP port.

A second option for this communication is using the RS-232 interface that some of these compatible devices do also have (MIMO series, DUO-NET PLAYER, NXA series, etc.). In this case, the serial connection must fulfil the following specifications:

- Baud rate: **57600** (fixed, no autonegotiation) for all the devices, <u>except for DUO-NET PLAYER, eMIMO1616, HUB series and MIMO4040CDN</u>, which use **115200** baud rate)
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

In case the Ecler device has an Euroblock connector for the RS-232 interface, the serial cable wiring, from the device's connector to a standard DB9 serial interface connector, must be the following:

WIRING RS232 – DB9	
RS232	**DB9**
Tx	Pin 2 (RxD)
Rx	Pin 3 (TxD)
Gnd	Pin 5 (Signal Gnd)

The protocol is simple and direct, making it easy to read, write and modify the generated code. It is based on messages with no begin and end delimiter: each message is self-delimited by the UDP packet size, which is defined with a maximum of **80 characters**. All the messages must be written in capital letters.

To let some control systems (like CRESTRON®, EXTRON®, AMX®, RTI®, VITY®, MEDIALON®, etc.) process the messages more easily, the EclerNet device adds the character **LF (0x0A)** to the end of each message. This way the client can buffer the

messages to process them, if it's required. The EclerNet device can also handle several messages received in a single message packet by using the **LF** delimiter.

The available messages are built with one or more fields separated with blank spaces (= blank space):

<TYPE> [PARAM1] [PARAM2] [PARAM3] [PARAM4][LF]

The first field (**TYPE**) defines the **message type** and then, the required parameters for it (each kind of message requires a given number of parameters). The field **TYPE** can have these values:

- **SYSTEM**
- **GET**
- **SET**
- **INC**
- **DEC**
- **SUBSCRIBE**
- **UNSUBSCRIBE**
- **DATA**
- **ERROR**

At the end of this document you'll find all the available messages and their parameters for each model of the EclerNet compatible devices.

The **SYSTEM, GET, SET, INC, DEC, SUBSCRIBE** & **UNSUBSCRIBE** messages can be sent from the client to the EclerNet device. The **DATA** & **ERROR** messages can be sent from the device to the client. The only exception is the **SYSTEM PING** message, that is a **SYSTEM** type message that is sent from the EclerNet device when the initial message from the client to the device was **SYSTEM CONNECT PINGPONG.**

The communication (using UDP or RS-232) starts when a client sends the message **SYSTEM CONNECT** to the EclerNet device. As far as the UDP communication requires no connection (unlike the TCP), the EclerNet device stores this client's IP address, and then uses it as the destination IP address for the messages that it generates (**DATA** & **ERROR**). After receiving the **SYSTEM CONNECT** message, the device dumps its entire configuration using several consecutive **DATA** messages.

The communication can be terminated by two methods:

- **Manually:** when the client sends the **SYSTEM DISCONNECT** message, cancelling all the subscriptions and stopping the **DATA** & **ERROR** messages
- **Automatically:** in case the initial message was **SYSTEM CONNECT PINGPONG** and the client didn't get any **SYSTEM PONG** message in a period longer than 10 seconds (presuming a communication breakdown)

The **SET** messages don't have an automatic acknowledgement with a **DATA** message sent from the EclerNet device after it has processed the **SET** command. The client must update the values itself and must send the needed **GET** message if it requires confirmation from the device.

NOTES:

- The numerical values are always integer numbers without **+**, **–**, comma or dot symbols.
- **[PINGPONG]** is an optional parameter used to configure the device-client communication with a periodical check, to see whether the client or the device have terminated it. When configured this way, the device sends a **SYSTEM PING** once per second, and the client must answer with a **SYSTEM PONG** message. If anyone doesn't get these messages along a 10 seconds period, the communication will be considered terminated
- **<Input Channel>** & **<Output Channel>** are numerical values that identify an input or output channel of the EclerNet device:
- It can be within a [1..8] range for MIMO88 single units (8x8 matrix masters), and [1..16] for MIMO88 couples configured as 16x16 matrix masters
- It can be within a [1..8] range for MIMO88SG units
- It can be within a [1..12] range for MIMO1212SG units
- For the NPA series, <Output Channel> can be within a [1..2] range
- For the NXA and NZA series it can be within the [1..4] or [1..6] range, for 4 or 6 channel amplifiers
- It can be within a [1..16] range for eMIMO1616 units
- It can be within a [1...40] range for MIMO7272DN and MIMO4040CDN
- **<Preset Number>** is a numerical value that identifies one available Preset stored in the EclerNet device's memory:
- For the MIMO series it can be within the [1..99] range
- For the DUO-NET PLAYER it can be within the [1..20] range
- For the NPA series it can be within the [1..10] range
- For the NXA and NZA series it can be within the [1..5] range
- **<Level>**, **<Pre Vumeter Level>** y **<Post Vumeter Level>** are numerical values in the [0..100] range that define values in a scale equivalent to [-inf..0] dB

- **<GPI>** & **<GPO>** are numerical values within the [1..8] range for the MIMO88 configured as 8x8 matrix masters (single units), and [1..16] for MIMO88 couples configured as 16x16 matrix masters. For the NXA series GPI values can be within the [1..4] or [1..6] range, depending on model. For the MIMO7272DN and MIMO4040CDN GPI and GPO values can be within [1..8]
- **<GPI Value>** is a numerical value within the [0..100] range that indicates the value of an analogue GPI input. For a digital input only 0 or 100 are the possible values
- **<GPO Value>** is a numerical value within the [0..1] range: it can only be 0 or 1 (opened or closed GPO)
- **<Rate>** is a numerical value within the [1..10] range that sets the VU-meter refresh rate, or the number of times the vumeters' values are sent per second (by default = 3)
- **"<Device Name>"** is the device name inside double quotation marks, to allow for names with blank spaces
- **<Error ID>** is a numerical value for an error code
- **"<Error Description>"** is a text chain inside double quotation marks, containing an error description
- **<Virtual Control>** is a numerical value that identifies a Virtual Control in a MIMO or NXA device:
- It can be within a [1A..4A] or [1B..4B] range for NXA 4 ch. Models
- It can be within a [1A..6A] or [1B..6B] range for NXA 6 ch. models
- It can be within a [1..64] range for MIMO88, MIMO88CONF, MIMO88SG, MIMO88SGCONF, MIMO1616, MIMO1616CONF, MIMO1212SG and MIMO1212SGCONF models
- It can be within a [1..80] range for MIMO4040CDN model
- It can be within a [1..160] range for MIMO7272DN model

14 NXA DIGITAL AUDIO MANAGER SERIES

IMPORTANT NOTE: The communication must be started with the client sending **the first message SYSTEM CONNECT** to the EclerNet device. Otherwise, the commands from the client to the EclerNet device will be ignored. See TP-NET PROTOCOL INTRODUCTION chapter for additional information.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SYSTEM	CONNECT	[PINGPONG]			Saves the client IP address for responses and then dumps current device status (with DATA messages)
	DISCONNECT				Cancel subscriptions and terminates communication
	SUBSCRIPTION_RATE	<Rate>			Alive message from device
	PING				Alive message from device
	PONG				Alive ACK message from client
GET	ALL				Dumps current device status (with DATA messages)
	POWER				Gets the Device Power status
	PRESET				Gets the current PRESET
	OLEVEL	<Output Channel>			Gets the current LEVEL of an Output Channel
	XLEVEL	<Input Channel>	<Output Channel>		Gets the current LEVEL of a Matrix point
	OMUTE	<Output Channel>			Gets the current MUTE status of an Output Channel
	XMUTE	<Input Channel>	<Output Channel>		Gets the current MUTE status of a Matrix Point
	OVU	<Output Channel>			Gets the VU-meter value of an Output Channel
	ALARM_PROTECT	<Output Channel>			Gets the Protect alarm status of an Output Channel
	ALARM_FAULT	<Output Channel>			Gets the self-diagnosis system alarm status of an Output Channel

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	INFO_NAME				Gets the Device Name
	INFO_MODEL				Gets the Device Model
	INFO_VERSION				Gets the Firmware Version
	INFO_MAC				Gets the Device MAC address
	VIRTUAL_CONTROL	<Virtual Control>			Gets the Virtual Control value

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SET	POWER	ON/OFF			Sets the Device Power status
	PRESET	<Preset Number>			Sets the current PRESET
	OLEVEL	<Output Channel>	<Level>		Sets the current LEVEL of an Output Channel
	XLEVEL	<Input Channel>	<Output Channel>	<Level>	Sets the current LEVEL of a Matrix point
	OMUTE	<Output Channel>	YES/NO		Sets the current MUTE status of an Output Channel
	XMUTE	<Input Channel>	<Output Channel>		Sets the current MUTE status of a Matrix Point
	VIRTUAL_CONTROL	<Virtual Control>	<Value>		Sets the Virtual Control value (Value can range from 1 to 100)
INC	OLEVEL	<Output Channel>	<Value>		Increases the current LEVEL of an Output Channel by Value (Value can range from ±1 to ±100)
	XLEVEL	<Input Channel>	<Output Channel>	<Value>	Increases the current LEVEL of a Matrix point by Value (Value can range from ±1 to ±100)
DEC	OLEVEL	<Output Channel>	<Value>		Decreases the current LEVEL of an Output Channel by Value (Value can range from ±1 to ±100)
	XLEVEL	<Input Channel>	<Output Channel>	<Value>	Decreases the current LEVEL of a Matrix point by Value (Value can range from ±1 to ±100)
SUBSCRIBE	ALL				Subscribes to all VU-meters
	OVU	<Output Channel>			Subscribes to an Output Channel VU-meter
UNSUBSCRIBE	ALL				Unsubscribe to all VU-meters
	OVU	<Output Channel>			Unsubscribe to an Output Channel VU-meter
DATA	POWER	ON/OFF			Shows the Device Power status
	PRESET	<Preset Number>			Shows the current PRESET
	OLEVEL	<Output Channel>	<Level>		Shows the current LEVEL of an Output Channel

	XLEVEL	<Input Channel>	<Output Channel>	<Level>		Shows the current LEVEL of a Matrix point
	OMUTE	<Output Channel>	YES/NO			Shows the current MUTE status of an Output Channel
	XMUTE	<Input Channel>	<Output Channel>	YES/NO		Shows the current MUTE status of a Matrix point
	VIRTUAL_CONTROL	<Virtual Control>	<Value>			Shows the Virtual Control value
	OVU	<Output Channel>	<Pre Vumeter Level>	<Post Vumeter Level>		Shows the VU-meter value of an Output Channel
	ALARM_PROTECT	<Output Channel>	ON/OFF			Shows the Protect alarm status of an Output Channel
	ALARM_FAULT	<Output Channel>	ON/OFF			Shows the self-diagnosis system alarm status of an Output Channel
	INFO_NAME	"<Device Name>"				Shows the Device Name
	INFO_MODEL	<Device Model>				Shows the Device Model
	INFO_VERSION	<Firmware Version>				Shows the Firmware Version
	INFO_MAC	<Device MAC address>				Shows the Device MAC address
ERROR	<Error ID>	"<Error Description>"				Informs about an error

Note: INC and DEC commands are replied with a DATA command from the device with the resulting LEVEL value, after it has been increased or decreased. When the INC or DEC command tries to adjust a LEVEL value beyond its minimum or maximum limits, no reply (DATA command) will be produced.

15 NZA MULTICHANNEL AMPLIFIER SERIES

IMPORTANT NOTE: The communication must be started with the client sending **the first message** **SYSTEM CONNECT** to the EclerNet device. Otherwise, the commands from the client to the EclerNet device will be ignored. See TP-NET PROTOCOL INTRODUCTION chapter for additional information.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SET	POWER	ON/OFF			Sets the Device Power status
	PRESET	<Preset Number>			Sets the current PRESET
	OLEVEL	<Output Channel>	<Level>		Sets the current LEVEL of an Output Channel
	OMUTE	<Output Channel>	YES/NO		Sets the current MUTE status of an Output Channel
SUBSCRIBE	ALL				Subscribes to all VU-meters
	OVU	<Output Channel>			Subscribes to an Output Channel VU-meter
UNSUBSCRIBE	ALL				Unsubscribe to all VU-meters
	OVU	<Output Channel>			Unsubscribe to an Output Channel VU-meter
DATA	POWER	ON/OFF			Shows the Device Power status
	PRESET	<Preset Number>			Shows the current PRESET
	OLEVEL	<Output Channel>	<Level>		Shows the current LEVEL of an Output Channel
	OMUTE	<Output Channel>	YES/NO		Shows the current MUTE status of an Output Channel
	OVU	<Output Channel>	<Pre Vumeter Level>	<Post Vumeter Level>	Shows the VU-meter value of an Output Channel
	ALARM_PROTECT	<Output Channel>	ON/OFF		Shows the Protect alarm status of an Output Channel
	INFO_NAME	"<Device Name>"			Shows the Device Name
	INFO_MODEL	<Device Model>			Shows the Device Model
	INFO_VERSION	<Firmware Version>			Shows the Firmware Version
	INFO_MAC	<Device MAC address>			Shows the Device MAC address
ERROR	<Error ID>	"<Error Description>"			Informs about an error

16 NPA STEREO AMPLIFIER SERIES

IMPORTANT NOTE: The communication must be started with the client sending **the first message** **SYSTEM CONNECT** to the EclerNet device. Otherwise, the commands from the client to the EclerNet device will be ignored. See TP-NET PROTOCOL INTRODUCTION chapter for additional information.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SYSTEM	CONNECT	[PINGPONG]			Saves the client IP address for responses and then dumps current device status (with DATA messages)
	DISCONNECT				Cancel subscriptions and terminates communication
	SUBSCRIPTION_RATE	<Rate>			Alive message from device
	PING				Alive message from device
	PONG				Alice ACK message from client
GET	ALL				Dumps current device status (with DATA messages)
	POWER				Gets the Device Power status
	PRESET				Gets the current PRESET
	OLEVEL	<Output Channel>			Gets the current LEVEL of an Output Channel
	OMUTE	<Output Channel>			Gets the current MUTE status of an Output Channel
	OVU	<Output Channel>			Gets the VU-meter value of an Output Channel
	ALARM_PROTECT	<Output Channel>			Gets the Protect alarm status of an Output Channel
	ALARM_THERMAL	<Output Channel>			Gets the Thermal alarm status of an Output Channel
	ALARM_LOAD	<Output Channel>			Gets the Load alarm status of an Output Channel
	ALARM_VOLTAGE				Gets the Voltage alarm status of the Device
	INFO_NAME				Gets the Device Name
	INFO_MODEL				Gets the Device Model
	INFO_VERSION				Gets the Firmware Version

	INFO_MAC				Gets the Device MAC address

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SET	POWER	ON/OFF			Sets the Device Power status
	PRESET	<Preset Number>			Sets the current PRESET
	OLEVEL	<Output Channel>	<Level>		Sets the current LEVEL of an Output Channel
	OMUTE	<Output Channel>	YES/NO		Sets the current MUTE status of an Output Channel
SUBSCRIBE	ALL				Subscribes to all VU-meters
	OVU	<Output Channel>			Subscribes to an Output Channel VU-meter
UNSUBSCRIBE	ALL				Unsubscribe to all VU-meters
	OVU	<Output Channel>			Unsubscribe to an Output Channel VU-meter
DATA	POWER	ON/OFF			Shows the Device Power status
	PRESET	<Preset Number>			Shows the current PRESET
	OLEVEL	<Output Channel>	<Level>		Shows the current LEVEL of an Output Channel
	OMUTE	<Output Channel>	YES/NO		Shows the current MUTE status of an Output Channel
	OVU	<Output Channel>	<Pre Vumeter Level>	<Post Vumeter Level>	Shows the VU-meter value of an Output Channel
	ALARM_PROTECT	<Output Channel>	ON/OFF		Shows the Protect alarm status of an Output Channel
	ALARM_THERMAL	<Output Channel>	ON/OFF		Shows the Thermal alarm status of an Output Channel
	ALARM_LOAD	<Output Channel>	ON/OFF		Shows the Load alarm status of an Output Channel
	ALARM_VOLTAGE	ON/OFF			Shows the Voltage alarm status of the Device

	INFO_NAME	"<Device Name>"			Shows the Device Name
	INFO_MODEL	<Device Model>			Shows the Device Model
	INFO_VERSION	<Firmware Version>			Shows the Firmware Version
	INFO_MAC	<Device MAC address>			Shows the Device MAC address
ERROR	<Error ID>	"<Error Description>"			Informs about an error

17 MIMO88 / MIMO88 CONFERENCE / MIMO88SG / MIMO1212SG (SINGLE) DIGITAL MATRIX

IMPORTANT NOTE: The communication must be started with the client sending **the first message** **SYSTEM CONNECT** to the EclerNet device. Otherwise, the commands from the client to the EclerNet device will be ignored. See TP-NET PROTOCOL INTRODUCTION chapter for additional information.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SYSTEM	CONNECT	[PINGPONG]			Saves the client IP address for responses and then dumps current device status (with DATA messages)
	DISCONNECT				Cancel subscriptions and terminates communication
	SUBSCRIPTION_RATE	<Rate>			Alive message from device
	PING				Alive message from device
	PONG				Alive ACK message from client
GET	ALL				Dumps current device status (with DATA messages)
	PRESET				Gets the current PRESET
	ILEVEL	<Input Channel>			Gets the current LEVEL of an Input Channel
	OLEVEL	<Output Channel>			Gets the current LEVEL of an Output Channel
	XLEVEL	<Input Channel>	<Output Channel>		Gets the current LEVEL of a Matrix point
	IMUTE	<Input Channel>			Gets the current MUTE status of an Input Channel
	OMUTE	<Output Channel>			Gets the current MUTE status of an Output Channel
	XMUTE	<Input Channel>	<Output Channel>		Gets the current MUTE status of a Matrix Point
	IVU	<Input Channel>			Gets the VU-meter value of an Input Channel

	OVU	<Output Channel>			Gets the VU-meter value of an Output Channel
	GPI	<Input>			Gets the current value of a General Purpose Input
	GPO	<Output>			Gets the current value of a General Purpose Output **(not valid for MIMO88SG / MIMO1212SG)**
	INFO_NAME				Gets the Device Name
	INFO_MODEL				Gets the Device Model
	INFO_VERSION				Gets the Firmware Version
	INFO_MAC				Gets the Device MAC address
	VIRTUAL_CONTROL	<Virtual Control>			Gets the Virtual Control value

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SET	PRESET	<Preset Number>			Sets the current PRESET
	ILEVEL	<Input Channel>	<Level>		Sets the current LEVEL of an Input Channel
	OLEVEL	<Output Channel>	<Level>		Sets the current LEVEL of an Output Channel
	XLEVEL	<Input Channel>	<Output Channel>	<Level>	Sets the current LEVEL for a Matrix point
	IMUTE	<Input Channel>	YES/NO		Sets the current MUTE status of an Input Channel
	OMUTE	<Output Channel>	YES/NO		Sets the current MUTE status of an Output Channel
	XMUTE	<Input Channel>	<Output Channel>	YES/NO	Sets the current MUTE status for a Matrix Point
	GPO	<Output>	<GPO Value>		Sets the current value for a General Purpose Output **(not valid for MIMO88SG)**
	VIRTUAL_CONTROL	<Virtual Control>	<Value>		Sets the Virtual Control value (Value can range from 1 to 100)
INC	ILEVEL	<Input Channel >	<Value>		Increases the current LEVEL of an Input Channel by Value (Value can range from ±1 to ±100)
	OLEVEL	<Output Channel>	<Value>		Increases the current LEVEL of an Output Channel by Value (Value can range from ±1 to ±100)
	XLEVEL	<Input Channel>	<Output Channel>	<Value>	Increases the current LEVEL of a Matrix point by Value (Value can range from ±1 to ±100)
DEC	ILEVEL	<Input Channel >	<Value>		Decreases the current LEVEL of an Input Channel by Value (Value can range from ±1 to ±100)
	OLEVEL	<Output Channel>	<Value>		Decreases the current LEVEL of an Output Channel by Value (Value can range from ±1 to ±100)

	XLEVEL	<Input Channel>	<Output Channel>	<Value>	Decreases the current LEVEL of a Matrix point by Value (Value can range from ±1 to ±100)
SUBSCRIBE	ALL				Subscribes to all VU-meters
	IVU	<Input Channel>			Subscribes to an Input Channel VU-meter
	OVU	<Output Channel>			Subscribes to an Output Channel VU-meter
UNSUBSCRIBE	ALL				Unsubscribe to all VU-meters
	IVU	<Input Channel>			Unsubscribe to an Input Channel VU-meter
	OVU	<Output Channel>			Unsubscribe to an Output Channel VU-meter

Note: INC and DEC commands are replied with a DATA command from the device with the resulting LEVEL value, after it has been increased or decreased. When the INC or DEC command tries to adjust a LEVEL value beyond its minimum or maximum limits, no reply (DATA command) will be produced.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
DATA	PRESET	<Preset Number>			Shows the current PRESET
	ILEVEL	<Input Channel>	<Level>		Shows the current LEVEL of an Input Channel
	OLEVEL	<Output Channel>	<Level>		Shows the current LEVEL of an Output Channel
	XLEVEL	<Input Channel>	<Output Channel>	<Level>	Shows the current LEVEL for a Matrix point
	IMUTE	<Input Channel>	YES/NO		Shows the current MUTE status of an Input Channel
	OMUTE	<Output Channel>	YES/NO		Shows the current MUTE status of an Output Channel
	XMUTE	<Input Channel>	<Output Channel>	YES/NO	Shows the current MUTE status for a Matrix Point
	VIRTUAL_CONTROL	<Virtual Control>	<Value>		Shows the Virtual Control value (Value can range from 1 to 100)
	IVU	<Input Channel>	<Pre Vumeter Level>	<Post Vumeter Level>	Shows the VU-meter value of an Input Channel
	OVU	<Output Channel>	<Pre Vumeter Level>	<Post Vumeter Level>	Shows the VU-meter value of an Output Channel
	GPI	<Input>	<GPI Value>		Shows the current value of a General Purpose Input
	GPO	<Output>	<GPO Value)		Shows the current value of a General Purpose Output. **(not valid for MIMO88SG)**
	INFO_NAME	"<Device Name>"			Shows the Device Name
	INFO_MODEL	<Device Model>			Shows the Device Model
	INFO_VERSION	<Firmware Version>			Shows the Firmware Version
	INFO_MAC	<Device MAC address>			Shows the Device MAC address
ERROR	<Error ID>	"<Error Description>"			Informs about an error

18 MIMO88SG CONFERENCE DIGITAL MATRIX

IMPORTANT NOTE: The communication must be started with the client sending **the first message SYSTEM CONNECT** to the EclerNet device. Otherwise, the commands from the client to the EclerNet device will be ignored. See TP-NET PROTOCOL INTRODUCTION chapter for additional information.

This MIMO88SG CONFERENCE firmware version shares the same hardware with the standard MIMO88SG unit, just uploading the CONFERENCE firmware version to it, and shares as well the same TP-NET commands in the above table, adding to them these new ones:

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
GET	GATE				Gets the current status of the NOISE GATE for inputs 1 to 8
	AUTOMIXER				Gets the current status of the AUTOMIXER function for inputs 1 to 8
SUBSCRIBE	GATE				Subscribes to the status of the NOISE GATE for inputs 1 to 8
	AUTOMIXER				Subscribes to the status of the AUTOMIXER function for inputs 1 to 8
UNSUSCRIBE	GATE				Unsubscribes to the status of the NOISE GATE for inputs 1 to 8
	AUTOMIXER				Unsubscribes to the status of the AUTOMIXER function for inputs 1 to 8
DATA	GATE	s1 s2 s3 s4 s5 s6 s7 s8			Shows the current NOISE GATE status (0 = open / 1 = closed) for the 8 inputs channels (s1 to s8, status of the gate for inputs 1 to 8)
	AUTOMIXER	s1 s2 s3 s4 s5 s6 s7 s8			Shows the current status for input channels in the Automixer section (0 = disabled or bellow threshold in the automixer / 1 = enabled and beyond threshold, but queued, not in the automatic mix / 2 = enabled, beyond threshold and into the automatic mix) for the 8 inputs channels (s1 to s8, status of the automixer function for inputs 1 to 8)

19 MIMO 7272DN / MIMO4040CDN DIGITAL MATRIX

IMPORTANT NOTE: The communication must be started with the client sending **the first message** **SYSTEM CONNECT** to the EclerNet device. Otherwise, the commands from the client to the EclerNet device will be ignored. See TP-NET PROTOCOL INTRODUCTION chapter for additional information.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SYSTEM	CONNECT	[MASTER]	[PINGPONG]	[ONCE]	Saves the client IP address for responses and then dumps current device status (with DATA messages)
	DISCONNECT				Cancel subscriptions and terminates communication
	SUBSCRIPTION_RATE	<Rate>			Alive message from device
	PING				Alive message from device
	PONG				Alive ACK message from client
	PING INTERVAL	<1-1000>			Ping Interval, in seconds
GET	ALL				Dumps current device status (with DATA messages)
	PRESET				Gets the current PRESET
	ILEVEL	<Input Channel>			Gets the current LEVEL of an Input Channel
	OLEVEL	<Output Channel>			Gets the current LEVEL of an Output Channel
	XLEVEL	<Input Channel>	<Output Channel>		Gets the current LEVEL of a Matrix point
	IMUTE	<Input Channel>			Gets the current MUTE status of an Input Channel
	XMUTE	<Input Channel>	<Output Channel>		Gets the current MUTE status of a Matrix Point
	IVU	<Input Channel>			Gets the VU-meter value of an Input Channel
	OVU	<Output Channel>			Gets the VU-meter value of an Output Channel

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	GPI	<Input>			Gets the current value of a General Purpose Input
	GPO	<Output>			Gets the current value of a General Purpose Output
	INFO_NAME				Gets the Device Name
	INFO_MODEL				Gets the Device Model
	INFO_VERSION				Gets the Firmware Version
	INFO_MAC				Gets the Device MAC address
	VIRTUAL_CONTROL	<Virtual Control>			Gets the Virtual Control value

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SET	PRESET	<Preset Number>			Sets the current PRESET
	ILEVEL	<Input Channel>	<Level>		Sets the current LEVEL of an Input Channel
	OLEVEL	<Output Channel>	<Level>		Sets the current LEVEL of an Output Channel
	XLEVEL	<Input Channel>	<Output Channel>	<Level>	Sets the current LEVEL for a Matrix point
	IMUTE	<Input Channel>	YES/NO		Sets the current MUTE status of an Input Channel
	XMUTE	<Input Channel>	<Output Channel>	YES/NO	Sets the current MUTE status for a Matrix Point
	GPO	<Output>	<GPO Value>		Sets the current value for a General Purpose Output
	VIRTUAL_CONTROL	<Virtual Control>	<Value>		Sets the Virtual Control value (Value can range from 1 to 100)
INC	ILEVEL	<Input Channel >	<Value>		Increases the current LEVEL of an Input Channel by Value (Value can range from ±1 to ±100)
	OLEVEL	<Output Channel>	<Value>		Increases the current LEVEL of an Output Channel by Value (Value can range from ±1 to ±100)
	XLEVEL	<Input Channel>	<Output Channel>	<Value>	Increases the current LEVEL of a Matrix point by Value (Value can range from ±1 to ±100)
DEC	ILEVEL	<Input Channel >	<Value>		Decreases the current LEVEL of an Input Channel by Value (Value can range from ±1 to ±100)
	OLEVEL	<Output Channel>	<Value>		Decreases the current LEVEL of an Output Channel by Value (Value can range from ±1 to ±100)
	XLEVEL	<Input Channel>	<Output Channel>	<Value>	Decreases the current LEVEL of a Matrix point by Value (Value can range from ±1 to ±100)
SUBSCRIBE	ALL				Subscribes to all VU-meters
	IVU	<Input Channel>			Subscribes to an Input Channel VU-meter

	OVU	<Output Channel>			Subscribes to an Output Channel VU-meter
UNSUBSCRIBE	ALL				Unsubscribe to all VU-meters
	IVU	<Input Channel>			Unsubscribe to an Input Channel VU-meter
	OVU	<Output Channel>			Unsubscribe to an Output Channel VU-meter

Note: INC and DEC commands are replied with a DATA command from the device with the resulting LEVEL value, after it has been increased or decreased. When the INC or DEC command tries to adjust a LEVEL value beyond its minimum or maximum limits, no reply (DATA command) will be produced.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
DATA	PRESET	<Preset Number>			Shows the current PRESET
	ILEVEL	<Input Channel>	<Level>		Shows the current LEVEL of an Input Channel
	OLEVEL	<Output Channel>	<Level>		Shows the current LEVEL of an Output Channel
	XLEVEL	<Input Channel>	<Output Channel>	<Level>	Shows the current LEVEL for a Matrix point
	IMUTE	<Input Channel>	YES/NO		Shows the current MUTE status of an Input Channel
	XMUTE	<Input Channel>	<Output Channel>	YES/NO	Shows the current MUTE status for a Matrix Point
	VIRTUAL_CONTROL	<Virtual Control>	<Value>		Shows the Virtual Control value (Value can range from 1 to 100)
	IVU	<Input Channel>	<Pre Vumeter Level>	<Post Vumeter Level>	Shows the VU-meter value of an Input Channel
	OVU	<Output Channel>	<Pre Vumeter Level>	<Post Vumeter Level>	Shows the VU-meter value of an Output Channel
	GPI	<Input>	<GPI Value>		Shows the current value of a General Purpose Input
	GPO	<Output>	<GPO Value)		Shows the current value of a General Purpose Output.
	INFO_NAME	"<Device Name>"			Shows the Device Name
	INFO_MODEL	<Device Model>			Shows the Device Model
	INFO_VERSION	<Firmware Version>			Shows the Firmware Version
	INFO_MAC	<Device MAC address>			Shows the Device MAC address
	INFO IPLIST				Shows the list of clients connected to the Device. The message will contain a list including **ClientNumber ClientIP Client Port** (separated by blank characters)

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
GET	AEC_MIC_LEVEL	<Room>	<Mic>		Gets the current LEVEL of a local mic from a given AEC room
	AEC_MIC_MUTE	<Room>	<Mic>	YES/NO	Gets the current MUTE status of a local mic from a given AEC room
	AEC_MIC_VU	<Room>	<Mic>		Gets the VU-meter value of a of a local mic from a given AEC room. It returns the Pre Fader and Post Fader values
	AEC_SPK_LEVEL	<Room>	<Speaker>		Gets the current LEVEL of a local loudspeaker from a given AEC room
	AEC_SPK_MUTE	<Room>	<Speaker>	YES/NO	Gets the current MUTE status of a local loudspeaker from a given AEC room
	AEC_SPK_VU	<Room>	<Speaker>		Gets the VU-meter value of a local loudspeaker from a given AEC room. It returns the Pre Fader and Post Fader values
SET	AEC_MIC_LEVEL	<Room>	<Mic>	<Value>	Sets the current LEVEL of a local mic from a given AEC room
	AEC_MIC_MUTE	<Room>	<Mic>	YES/NO	Sets the current MUTE status of a local mic from a given AEC room
	AEC_SPK_LEVEL	<Room>	<Speaker>	<Value>	Sets the current LEVEL of a local loudspeaker from a given AEC room
	AEC_SPK_MUTE	<Room>	<Speaker>	YES/NO	Sets the current MUTE status of a local loudspeaker from a given AEC room
	AEC_RESET	<Room>			Reset the AEC algorithm (default parameters) from a given AEC room

INC					
	AEC_MIC_LEVEL	<Room>	<Mic>	<Value>	Increases the current LEVEL of a local mic from a given AEC room (Value can range from ±1 to ±100)
	AEC_SPK_LEVEL	<Room>	<Speaker>	<Value>	Increases the current LEVEL of a local loudspeaker from a given AEC room (Value can range from ±1 to ±100)
DEC					
	AEC_MIC_LEVEL	<Room>	<Mic>	<Value>	Decreases the current LEVEL of a local mic from a given AEC room (Value can range from ±1 to ±100)
	AEC_SPK_LEVEL	<Room>	<Speaker>	<Value>	Decreases the current LEVEL of a local loudspeaker from a given AEC room (Value can range from ±1 to ±100)
SUBSCRIBE	AEC_MIC_VU	<Room>	<Mic>		Subscribe to all VU-meters of a local mic from a given AEC room
	AEC_SPK_VU	<Room>	<Speaker>		Subscribe to all VU-meters of a local loudspeaker from a given AEC room
UNSUBSCRIBE	AEC_MIC_VU	<Room>	<Mic>		Unsubscribe to all VU-meters of a local mic from a given AEC room
	AEC_SPK_VU	<Room>	<Speaker>		Unsubscribe to all VU-meters of a local loudspeaker from a given AEC room

20 DUO-NET PLAYER AUDIO PLAYER & STREAMING RECEIVER

IMPORTANT NOTE: The communication must be started with the client sending **the first message** **SYSTEM CONNECT** to the EclerNet device. Otherwise, the commands from the client to the EclerNet device will be ignored. See TP-NET PROTOCOL INTRODUCTION chapter for additional information.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SYSTEM	CONNECT	[PINGPONG]			Saves the client IP address for responses and then dumps current device status (with DATA messages)
	DISCONNECT				Cancel subscriptions and terminates communication
	SUBSCRIPTION_RATE	<Rate>			Alive message from device
	PING				Alive message from device
	PONG				Alive ACK message from client
	PING_INTERVAL				
GET	ALL				Dumps current device status (with DATA messages)
	PRESET_INDEX				Gets the current PRESET number
	PRESET_NAME				Gets the current PRESET name
	DEVICE_NAME				Gets the Device Name
	INFO_MODEL				Gets the Device Model
	INFO_VERSION				Gets the Firmware Version
	INFO_MAC				Gets the Device MAC address
	INFO_IPLIST				Gets the IP parameters of the connected client devices
	IP_CONFIG				Shows the DUO-NET unit's current IP configuration
	PLAYER_NAME	<PLAYER:A/B>			Gets the PLAYER A or B NAME
	PLAYER_MUTE	<PLAYER:A/B>			Gets the MUTE status of PLAYER A or B
	PLAYER_VOLUME	<PLAYER:A/B>			Gets the VOLUME level of PLAYER A or B

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	PLAYER_VUMETER	<PLAYER:A/B>			Gets the VUMETER level of PLAYER A or B
	PLAYER_TIME	<PLAYER:A/B>			Gets PLAYER A or B elapsed, remaining and total time of the current media playback
	PLAYER_TRANSPORT_STATUS	<PLAYER:A/B>			Gets PLAYER A or B current playback status
	PLAYER_PLAYLIST_INDEX				Gets PLAYER A or B loaded playlist number, from the 99 available in the playlist bank
	PLAYER_PLAYLIST_NAME	<PLAYER:A/B>			Gets PLAYER A or B loaded playlist name, from the 99 available in the playlist bank
	PLAYER_QUEUE_INFO	<PLAYER:A/B>			Gets PLAYER A or B current playback queue position (index) and total number of items in it (count)
	PLAYER_PLAY_MODE	<PLAYER:A/B>			Gets PLAYER A or B current playback order mode
	PLAYER_REPEAT_MODE	<PLAYER:A/B>			Gets PLAYER A or B current playback repeat mode
	PLAYER_FADE_MODE	<PLAYER:A/B>			Gets PLAYER A or B current tracks playback transition mode
	PLAYER_VARISPEED	<PLAYER:A/B>			Gets PLAYER A or B current playback tempo variation value
	PRIORITY_STATUS	<PRIORITY:1/2>			Gets PRIORITY MODULE 1 or 2 status
	PLAYER_ITEM_TAGS	<PLAYER:A/B>			Gets PLAYER A or B current playback ALIAS, TITLE, ARTIST, ALBUM and NAME tags

SET	PRESET_INDEX	<1..20>			Sets the current PRESET number
	PLAYER_MUTE	<PLAYER:A/B>	<YES/NO>		Sets the MUTE status of PLAYER A or B
	PLAYER_VOLUME	<PLAYER:A/B>	<0..100>		Sets the VOLUME level of PLAYER A or B
	PLAYER_TRANSPORT_CONTROL	<PLAYER:A/B>	<STOP/PLAY/PAUSE/NEXT/PREV>		Sets PLAYER A or B transport controls
	PLAYER_PLAYLIST_INDEX	<PLAYER:A/B>	<1..99>		Sets (loads) PLAYER A or B playlist number, from the 99 available in the playlist bank
	PLAYER_PLAY_MODE	<PLAYER:A/B>	<SEQUENTIAL/RANDOM>		Sets PLAYER A or B playback order mode
	PLAYER_REPEAT_MODE	<PLAYER:A/B>	<PLAY_ALL/PLAY_ONE/REPEAT_ALL/REPEAT_ONE>		Sets PLAYER A or B current playback repeat mode
	PLAYER_FADE_MODE	<PLAYER:A/B>	<NONE/XFADE/FADE/HFADE>		Sets PLAYER A or B current tracks playback transition mode
	PLAYER_VARISPEED	<PLAYER:A/B>	<VARISPEED:-50..50>		Sets the current Varispeed (track's tempo) variation value, from -50% to +50%
INC	PLAYER_VOLUME	PLAYER:A/B>	<0..100>		INCreases the current VOLUME of a PLAYER, a value from ±1 to ±100
	PLAYER_VARISPEED	PLAYER:A/B>	<VARISPEED:-50..50>		INCrements the current Varispeed (track's tempo) variation value, from -50% to +50%
DEC	PLAYER_VOLUME	PLAYER:A/B>	<0..100>		DECreases the current VOLUME of a PLAYER, a value from ±1 to ±100
	PLAYER_VARISPEED	PLAYER:A/B>	<VARISPEED:-50..50>		DECrements the current Varispeed (track's tempo) variation value, from -50% to +50%
SUBSCRIBE	ALL				Subscribes to all VU-meters and player times
	PLAYER_VUMETER	PLAYER:A/B>			Subscribes to the VUMETER level of PLAYER A or B
	PLAYER_TIME	PLAYER:A/B>			Subscribes to the TIME values (elapsed, remaining, total) of PLAYER A or B
UNSUSCRIBE	ALL				Unsubscribes to all VU-meters and player times

| | PLAYER_VUMETER | PLAYER:A/B> | | | Unsubscribes to the VUMETER level of PLAYER A or B |
| | PLAYER_TIME | PLAYER:A/B> | | | Unsubscribes to the TIME values (elapsed, remaining, total) of PLAYER A or B |

DATA	PRESET_INDEX	<1..20>			Shows the current PRESET number
	PRESET_NAME	"<NAME>"			Shows the current PRESET name
	DEVICE_NAME	"<NAME>"			Shows the Device Name
	INFO_MODEL	<Device Model>			Shows the Device Model
	INFO_VERSION	<Firmware Version>			Shows the Firmware Version
	INFO_MAC	<Device MAC address>			Shows the Device MAC address
	INFO_IPLIST	<N>	<IP>	<PORT>	Shows the IP parameters of the connected client devices, where N is an incremental number assigned to each one, followed by the IP:port it has Example with 2 clients : *DATA INFO_IPLIST 1 192.168.1.2 55229* *DATA INFO_IPLIST 2 192.168.1.2 55231*

	IP_CONFIG	IP>	<PORT>	<NETMASK>	<GATEWAY>	Shows the DUO-NET unit's current IP configuration. Example: *DATA IP_CONFIG 192.168.0.6 5000 255.255.0.0 192.168.0.1*
	PLAYER_NAME	<PLAYER:A/B>	"<NAME>"			Shows the PLAYER A or B NAME
	PLAYER_MUTE	<PLAYER:A/B>	<MUTE:YES/NO>			Shows the MUTE status of PLAYER A or B
	PLAYER_VOLUME	<PLAYER:A/B>	<VOL:0..100>			Shows the VOLUME level of PLAYER A or B
	PLAYER_VUMETER	<PLAYER:A/B>	<VOL:0..100>			Shows the VUMETER level of PLAYER A or B
	PLAYER_TIME	<PLAYER:A/B>	<ELAPSED>	<REMAIN>	<TOTAL>	Shows PLAYER A or B elapsed, remaining and total time of the current media playback
	PLAYER_TRANSPORT_STATUS	<PLAYER:A/B>	<STATUS:STOPPED/PLAYING/PAUSE>			Shows PLAYER A or B current playback status
	PLAYER_PLAYLIST_INDEX	<PLAYER:A/B>	<INDEX:1..99>			Shows PLAYER A or B loaded playlist number, from the 99 available in the playlist bank
	PLAYER_PLAYLIST_NAME	<PLAYER:A/B>	"<NAME>"			Shows PLAYER A or B loaded playlist name, from the 99 available in the playlist bank
	PLAYER_QUEUE_INFO	<PLAYER:A/B>	<QUEUE_INDEX>	<QUEUE_COUNT>		Shows PLAYER A or B current playback queue position (index) and total number of items in it (count)

	PLAYER_PLAY_MODE	<PLAYER:A/B>	<MODE:SEQUENTIAL/RANDOM>		Shows PLAYER A or B current playback order mode
	PLAYER_REPEAT_MODE	<PLAYER:A/B>	<MODE:PLAY_ALL/PLAY_ONE/REPEAT_ALL/REPEAT_ONE>		Shows PLAYER A or B current playback repeat mode
	PLAYER_FADE_MODE	<PLAYER:A/B>	<MODE:NONE/XFADE/FADE/HFADE>		Shows PLAYER A or B current tracks playback transition mode
	PLAYER_VARISPEED	<PLAYER:A/B>	<VALUE:-50..50>		Shows PLAYER A or B current playback tempo variation value
	PRIORITY_STATUS	<PRIORITY:1/2>	<STATUS:RUNNING/STOPPED>		Shows PRIORITY MODULE 1 or 2 status
	PLAYER_ITEM_TAG_ALIAS	<PLAYER:A/B>	"<ALIAS>"		Shows PLAYER A or B current playlist ALIAS field
	PLAYER_ITEM_TAG_TITLE	<PLAYER:A/B>	"<TITLE>"		Shows PLAYER A or B current playback title tag
	PLAYER_ITEM_TAG_ARTIST	<PLAYER:A/B>	"<ARTIST>"		Shows PLAYER A or B current playback artist tag
	PLAYER_ITEM_TAG_ALBUM	<PLAYER:A/B>	"<ALBUM>"		Shows PLAYER A or B current playback album tag
	PLAYER_ITEM_TAG_NAME	<PLAYER:A/B>	"<NAME>"		Shows PLAYER A or B current playback name tag

21 ERROR CODES FOR ECLERNET DEVICES

21.1 COMMON ERROR CODES (to all EclerNet - TP-NET compatible devices)

ERROR ID	DESCRIPTION
0	TPNET_ERROR_NONE = 0,
1	TPNET_ERROR_INVALID_FIELD_TYPE,
2	TPNET_ERROR_INVALID_FIELD_PARAM1,
3	TPNET_ERROR_INVALID_FIELD_PARAM2,
4	TPNET_ERROR_INVALID_FIELD_PARAM3,
5	TPNET_ERROR_INVALID_FIELD_PARAM4,

21.2 NXA SERIES SPECIFIC ERROR CODES

ERROR ID	DESCRIPTION
6	UDP_ERROR_TIMEOUT_PONG,
7	UDP_ERROR_CONNECT_WHILE_CONNECTED,
8	UDP_ERROR_DISCONNECT_WHILE_UNCONNECTED,
9	UDP_ERROR_INVALID_CLIENT_IP,
10	UDP_ERROR_MESSAGE_TOO_LONG,
11	UDP_ERROR_UNSUPPORTED_MESSAGE,
12	UDP_ERROR_UNSUPPORTED_PRESET_NUMBER,
13	UDP_ERROR_UNSUPPORTED_INPUT_CHANNEL_NUMBER,
14	UDP_ERROR_UNSUPPORTED_OUTPUT_CHANNEL_NUMBER,
15	UDP_ERROR_UNSUPPORTED_GPI_NUMBER,
16	UDP_ERROR_UNSUPPORTED_GPO_NUMBER,
17	UDP_ERROR_INVALID_LEVEL_VALUE,
18	UDP_ERROR_INVALID_RATE_VALUE,
19	UDP_ERROR_GPO_VALUE,
20	UDP_ERROR_MAX_CLIENTS_REACHED,
21	UDP_ERROR_MASTER_MODE,

21.3 NZA SERIES SPECIFIC ERROR CODES

ERROR ID	DESCRIPTION
6	UDP_ERROR_TIMEOUT_PONG,
7	UDP_ERROR_CONNECT_WHILE_CONNECTED,
8	UDP_ERROR_DISCONNECT_WHILE_UNCONNECTED,
9	UDP_ERROR_INVALID_CLIENT_IP,
10	UDP_ERROR_MESSAGE_TOO_LONG,
11	UDP_ERROR_UNSUPPORTED_MESSAGE,
12	UDP_ERROR_UNSUPPORTED_PRESET_NUMBER,
13	UDP_ERROR_UNSUPPORTED_INPUT_CHANNEL_NUMBER,
14	UDP_ERROR_UNSUPPORTED_OUTPUT_CHANNEL_NUMBER,
15	UDP_ERROR_UNSUPPORTED_GPI_NUMBER,
16	UDP_ERROR_UNSUPPORTED_GPO_NUMBER,
17	UDP_ERROR_INVALID_LEVEL_VALUE,
18	UDP_ERROR_INVALID_RATE_VALUE,
19	UDP_ERROR_GPO_VALUE,
20	UDP_ERROR_UNSUPPORTED_INPUT_SELECT_VALUE,

ERROR ID	DESCRIPTION
6	UDP_ERROR_TIMEOUT_PONG,
7	UDP_ERROR_CONNECT_WHILE_CONNECTED,
8	UDP_ERROR_DISCONNECT_WHILE_UNCONNECTED,
9	UDP_ERROR_INVALID_CLIENT_IP,
10	UDP_ERROR_MESSAGE_TOO_LONG,
11	UDP_ERROR_UNSUPPORTED_MESSAGE,
12	UDP_ERROR_UNSUPPORTED_PRESET_NUMBER,
13	UDP_ERROR_UNSUPPORTED_INPUT_CHANNEL_NUMBER,
14	UDP_ERROR_UNSUPPORTED_OUTPUT_CHANNEL_NUMBER,
15	UDP_ERROR_UNSUPPORTED_GPI_NUMBER,
16	UDP_ERROR_UNSUPPORTED_GPO_NUMBER,
17	UDP_ERROR_INVALID_LEVEL_VALUE,
18	UDP_ERROR_INVALID_RATE_VALUE,
19	UDP_ERROR_GPO_VALUE,

ERROR ID	DESCRIPTION
6	UDP_ERROR_TIMEOUT_PONG,
7	UDP_ERROR_CONNECT_WHILE_CONNECTED,
8	UDP_ERROR_DISCONNECT_WHILE_UNCONNECTED,
9	UDP_ERROR_INVALID_CLIENT_IP,
10	UDP_ERROR_MESSAGE_TOO_LONG,
11	UDP_ERROR_UNSUPPORTED_MESSAGE,
12	UDP_ERROR_UNSUPPORTED_PRESET_NUMBER,
13	UDP_ERROR_UNSUPPORTED_INPUT_CHANNEL_NUMBER,
14	UDP_ERROR_UNSUPPORTED_OUTPUT_CHANNEL_NUMBER,
15	UDP_ERROR_UNSUPPORTED_GPI_NUMBER,
16	UDP_ERROR_INVALID_LEVEL_VALUE,
17	UDP_ERROR_INVALID_RATE_VALUE,

ERROR ID	DESCRIPTION
6	TPNET_ERROR_INVALID_FIELD_PARAM5,
7	TPNET_ERROR_TIMEOUT_PONG,
8	TPNET_ERROR_CONNECT_WHILE_CONNECTED,
9	TPNET_ERROR_DISCONNECT_WHILE_UNCONNECTED,
10	TPNET_ERROR_INVALID_CLIENT_IP,
11	TPNET_ERROR_MESSAGE_TOO_LONG,
12	TPNET_ERROR_UNSUPPORTED_MESSAGE,
13	TPNET_ERROR_INVALID_RATE_VALUE,
14	TPNET_ERROR_MAX_CLIENTS_REACHED,
15	TPNET_ERROR_MASTER_MODE,

22 eMIMO1616 DIGITAL MATRIX

IMPORTANT NOTE: The communication must be started with the client sending **the first message SYSTEM CONNECT** to the device. Otherwise, the commands from the client to the EclerNet device will be ignored. See TP-NET PROTOCOL INTRODUCTION chapter for additional information.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SYSTEM	CONNECT	[PINGPONG]			Saves the client IP address for responses and then dumps current device status (with DATA messages)
	DISCONNECT				Cancel subscriptions and terminates communication
	SUBSCRIPTION_RATE	<Rate>			Alive message from device
	PING_INTERVAL	<1-1000>			Ping Interval, in seconds
	PING				Alive message from device
	PONG				Alive ACK message from client
GET	ALL				Dumps current device status (with DATA messages)
	INFO_NAME				Gets the Device Name
	INFO_MODEL				Gets the Device Model
	INFO_VERSION				Gets the Firmware Version
	INFO_MAC				Gets the Device MAC address
	IP_CONFIG				Gets the Device network configuration
	INFO_IPLIST				Gets the list of clients connected to the Device
	INAME	<Input Channel>			Gets the NAME (label) of an Input Channel
	ILEVEL	<Input Channel>			Gets the current LEVEL of an Input Channel
	IMUTE	<Input Channel>			Gets the current MUTE status of an Input Channel
	IBASSGAIN	<Input Channel>			Gets the current BASS EQ filter GAIN of an Input Channel
	IMIDGAIN	<Input Channel>			Gets the current MID EQ filter GAIN of an Input Channel

	ITREBLEGAIN	<Input Channel>			Gets the current TREBLE EQ filter GAIN of an Input Channel
	IVU	<Input Channel>			Gets the VU-meter value of an Input Channel
	ONAME	<Output Channel>			Gets the NAME (label) of an Output Channel
	OLEVEL	<Output Channel>			Gets the current LEVEL of an Output Channel
	OMUTE	<Output Channel>			Gets the current MUTE status of an Output Channel
	OBASSGAIN	<Output Channel>			Gets the current BASS EQ filter GAIN of an Output Channel
	OMIDGAIN	<Output Channel>			Gets the current MID EQ filter GAIN of an Output Channel
	OTREBLEGAIN	<Output Channel>			Gets the current TREBLE EQ filter GAIN of an Output Channel
	OVU	<Output Channel>			Gets the VU-meter value of an Output Channel
	OSOURCESEL	<Output Channel>			Gets the current selected source (input) of an Output Channel

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SET	IMUTE	<Input Channel>	YES/NO		Sets the current MUTE status of an Input Channel
	ILEVEL	<Input Channel>	<Level>		Sets the current LEVEL of an Input Channel (Level can range from 1 to 100)
	IBASSGAIN	<Input Channel>	<Gain>		Sets the current BASS EQ filter GAIN of an Input Channel (Gain can range from ±1 to ±100)
	IMIDGAIN	<Input Channel>	<Gain>		Sets the current MID EQ filter GAIN of an Input Channel (Gain can range from ±1 to ±100)
	ITREBLEGAIN	<Input Channel>	<Gain>		Sets the current TREBLE EQ filter GAIN of an Input Channel (Gain can range from ±1 to ±100)
	OMUTE	<Output Channel>	YES/NO		Sets the current MUTE status of an Output Channel
	OLEVEL	<Output Channel>	<Level>		Sets the current LEVEL of an Output Channel (Level can range from 1 to 100)
	OBASSGAIN	<Output Channel>	<Gain>		Sets the current BASS EQ filter GAIN of an Output Channel (Gain can range from ±1 to ±100)
	OMIDGAIN	<Output Channel>	<Gain>		Sets the current MID EQ filter GAIN of an Output Channel (Gain can range from ±1 to ±100)
	OTREBLEGAIN	<Output Channel>	<Gain>		Sets the current TREBLE EQ filter GAIN of an Output Channel (Gain can range from ±1 to ±100)
	OSOURCESEL	<Output Channel>	<Input>		Sets the selected source (input) for an Output Channel (Input (source) can range from 0 to 16, meaning 0 = no source (silence))
INC	ILEVEL	<Input Channel >	<Value>		Increases the current LEVEL of an Input Channel by Value (Value can range from ±1 to ±100)
	IBASSGAIN	<Input Channel>	<Value>		Increases the current BASS EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	IMIDGAIN	<Input Channel>	<Value>		Increases the current MID EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)

	ITREBLEGAIN	<Input Channel>	<Value>		Increases the current TREBLE EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OLEVEL	<Output Channel>	<Value>		Increases the current LEVEL of an Output Channel by Value (Value can range from ±1 to ±100)
	OBASSGAIN	<Input Channel>	<Value>		Increases the current BASS EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OMIDGAIN	<Input Channel>	<Value>		Increases the current MID EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OTREBLEGAIN	<Input Channel>	<Value>		Increases the current TREBLE EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
DEC	ILEVEL	<Input Channel >	<Value>		Decreases the current LEVEL of an Input Channel by Value (Value can range from ±1 to ±100)
	IBASSGAIN	<Input Channel>	<Value>		Decreases the current BASS EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	IMIDGAIN	<Input Channel>	<Value>		Decreases the current MID EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	ITREBLEGAIN	<Input Channel>	<Value>		Decreases the current TREBLE EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)

	OLEVEL	<Output Channel>	<Value>		Decreases the current LEVEL of an Output Channel by Value (Value can range from ±1 to ±100)
	OBASSGAIN	<Input Channel>	<Value>		Decreases the current BASS EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OMIDGAIN	<Input Channel>	<Value>		Decreases the current MID EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OTREBLEGAIN	<Input Channel>	<Value>		Decreases the current TREBLE EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
SUBSCRIBE	ALL				Subscribes to all VU-meters
	IVU	<Input Channel>			Subscribes to an Input Channel VU-meter
	OVU	<Output Channel>			Subscribes to an Output Channel VU-meter
UNSUBSCRIBE	ALL				Unsubscribe to all VU-meters
	IVU	<Input Channel>			Unsubscribe to an Input Channel VU-meter
	OVU	<Output Channel>			Unsubscribe to an Output Channel VU-meter

Note: INC and DEC commands are replied with a DATA command from the device with the resulting LEVEL value, after it has been increased or decreased. When the INC or DEC command tries to adjust a LEVEL value beyond its minimum or maximum limits, no reply (DATA command) will be produced.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
DATA	INFO_NAME	"<Device Name>"			Shows the Device Name
	INFO_MODEL	<Device Model>			Shows the Device Model
	INFO_VERSION	<Firmware Version>			Shows the Firmware Version
	INFO_MAC	<Device MAC address>			Shows the Device MAC address
	IP_CONFIG				Shows the Device network configuration. The message will contain **DeviceIP DeviceMask DeviceGateway** (separated by blank characters)
	INFO_IPLIST				Shows the list of clients connected to the Device. The message will contain a list including **ClientNumber ClientIP Client Port** (separated by blank characters)
	INAME	<Input Channel>	<Name>		Shows the NAME (label) of an Input Channel
	ILEVEL	<Input Channel>	<Level>		Shows the current LEVEL of an Input Channel
	IMUTE	<Input Channel>	YES/NO		Shows the current MUTE status of an Input Channel
	IBASSGAIN	<Input Channel>	<Gain>		Shows the current BASS EQ filter GAIN of an Input Channel
	IMIDGAIN	<Input Channel>	<Gain>		Shows the current MID EQ filter GAIN of an Input Channel
	ITREBLEGAIN	<Input Channel>	<Gain>		Shows the current TREBLE EQ filter GAIN of an Input Channel
	IVU	<Input Channel>	<Post Vumeter Level>		Shows the VU-meter value of an Input Channel
	ONAME	<Output Channel>	<Name>		Shows the NAME (label) of an Output Channel
	OLEVEL	<Output Channel>	<Level>		Shows the current LEVEL of an Output Channel

	OMUTE	<Output Channel>	YES/NO		Shows the current MUTE status of an Output Channel
	OBASSGAIN	<Input Channel>	<Gain>		Shows the current BASS EQ filter GAIN of an Output Channel
	OMIDGAIN	<Input Channel>	<Gain>		Shows the current MID EQ filter GAIN of an Output Channel
	OTREBLEGAIN	<Input Channel>	<Gain>		Shows the current TREBLE EQ filter GAIN of an Output Channel
	OVU	<Output Channel>	<Post Vumeter Level>		Shows the VU-meter value of an Output Channel
	OSOURCESEL	<Output Channel>	<Input>		Shows the current selected source (input) of an Output Channel. (Input (source) can range from 0 to 16, meaning 0 = no source (silence))
ERROR	<Error ID>	"<Error Description>"			Informs about an error

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ERROR ID	DESCRIPTION
0	No error. Depending on scenario, can report any of the following: • Device is in TEST MODE • Device is in FACTORY MODE • Last loaded project was incomplete • Now Disconnected
1	Invalid Field MSG
2	Depending on scenario, can report any of the following: • Invalid Field DATA • Invalid Field VALUE • Invalid Field PARAM1
3	Invalid Field CHANNEL
4	Invalid Field VALUE
7	Timeout Waiting PONG
8	CONNECT received while connected
9	DISCONNECT received while unconnected
10	Invalid client (client not connected)
11	Message too long (more than 80 characters)
12	Message with invalid format
13	Depending on scenario, can report any of the following: • Invalid Ping Interval value • Invalid Subscription Interval value
14	Maximum number of clients reached
15	Master Mode active

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IMPORTANT NOTE: The communication must be started with the client sending **the first message SYSTEM CONNECT** to the device. Otherwise, the commands from the client to the EclerNet device will be ignored. See TP-NET PROTOCOL INTRODUCTION chapter for additional information.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SYSTEM	CONNECT	[PINGPONG]			Saves the client IP address for responses and then dumps current device status (with DATA messages)
	DISCONNECT				Cancel subscriptions and terminates communication
	SUBSCRIPTION_RATE	<Rate>			Alive message from device
	PING_INTERVAL	<1-1000>			Ping Interval, in seconds
	PING				Alive message from device
	PONG				Alive ACK message from client
GET	ALL				Dumps current device status (with DATA messages)
	INFO_NAME				Gets the Device Name
	INFO_MODEL				Gets the Device Model
	INFO_VERSION				Gets the Firmware Version
	INFO_MAC				Gets the Device MAC address
	IP_CONFIG				Gets the Device network configuration
	INFO_IPLIST				Gets the list of clients connected to the Device
	INAME	<Input Channel>			Gets the NAME (label) of an Input Channel
	ILEVEL	<Input Channel>			Gets the current LEVEL of an Input Channel
	IMUTE	<Input Channel>			Gets the current MUTE status of an Input Channel
	IBASSGAIN	<Input Channel>			Gets the current BASS EQ filter GAIN of an Input Channel
	IMIDGAIN	<Input Channel>			Gets the current MID EQ filter GAIN of an Input Channel

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	ITREBLEGAIN	<Input Channel>			Gets the current TREBLE EQ filter GAIN of an Input Channel
	IVU	<Input Channel>			Gets the VU-meter value of an Input Channel
	ONAME	<Output Channel>			Gets the NAME (label) of an Output Channel
	OLEVEL	<Output Channel>			Gets the current LEVEL of an Output Channel
	OMUTE	<Output Channel>			Gets the current MUTE status of an Output Channel
	OGENVOL				Gets the current LEVEL of the General Volume
	OMUTEGENVOL				Gets the current MUTE status of the General Volume
	OBASSGAIN	<Output Channel>			Gets the current BASS EQ filter GAIN of an Output Channel
	OMIDGAIN	<Output Channel>			Gets the current MID EQ filter GAIN of an Output Channel
	OTREBLEGAIN	<Output Channel>			Gets the current TREBLE EQ filter GAIN of an Output Channel
	OVU	<Output Channel>			Gets the VU-meter value of an Output Channel
	OSOURCESEL	<Output Channel>			Gets the current selected source (input) of an Output Channel

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
SET	IMUTE	<Input Channel>	YES/NO		Sets the current MUTE status of an Input Channel
	ILEVEL	<Input Channel>	<Level>		Sets the current LEVEL of an Input Channel (Level can range from 1 to 100)
	IBASSGAIN	<Input Channel>	<Gain>		Sets the current BASS EQ filter GAIN of an Input Channel (Gain can range from ±1 to ±100)
	IMIDGAIN	<Input Channel>	<Gain>		Sets the current MID EQ filter GAIN of an Input Channel (Gain can range from ±1 to ±100)
	ITREBLEGAIN	<Input Channel>	<Gain>		Sets the current TREBLE EQ filter GAIN of an Input Channel (Gain can range from ±1 to ±100)
	OMUTE	<Output Channel>	YES/NO		Sets the current MUTE status of an Output Channel

	OLEVEL	<Output Channel>	<Level>		Sets the current LEVEL of an Output Channel (Level can range from 1 to 100)
	OGENVOL	<Level>			Sets the current LEVEL of the General Volume (Level can range from 1 to 100)
	OMUTEGENVOL	YES/NO			Sets the current MUTE status of the General Volume
	OBASSGAIN	<Output Channel>	<Gain>		Sets the current BASS EQ filter GAIN of an Output Channel (Gain can range from ±1 to ±100)
	OMIDGAIN	<Output Channel>	<Gain>		Sets the current MID EQ filter GAIN of an Output Channel (Gain can range from ±1 to ±100)
	OTREBLEGAIN	<Output Channel>	<Gain>		Sets the current TREBLE EQ filter GAIN of an Output Channel (Gain can range from ±1 to ±100)
	OSOURCESEL	<Output Channel>	<Input>		Sets the selected source (input) for an Output Channel (Input (source) can range from 0 to 16, meaning 0 = no source (silence))
INC	ILEVEL	<Input Channel >	<Value>		Increases the current LEVEL of an Input Channel by Value (Value can range from ±1 to ±100)
	IBASSGAIN	<Input Channel>	<Value>		Increases the current BASS EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	IMIDGAIN	<Input Channel>	<Value>		Increases the current MID EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	ITREBLEGAIN	<Input Channel>	<Value>		Increases the current TREBLE EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OLEVEL	<Output Channel>	<Value>		Increases the current LEVEL of an Output Channel by Value (Value can range from ±1 to ±100)

	OGENVOL	<Value>			Increases the current LEVEL of the General Volume by Value (Value can range from ±1 to ±100)
	OBASSGAIN	<Input Channel>	<Value>		Increases the current BASS EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OMIDGAIN	<Input Channel>	<Value>		Increases the current MID EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OTREBLEGAIN	<Input Channel>	<Value>		Increases the current TREBLE EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
DEC	ILEVEL	<Input Channel >	<Value>		Decreases the current LEVEL of an Input Channel by Value (Value can range from ±1 to ±100)
	IBASSGAIN	<Input Channel>	<Value>		Decreases the current BASS EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	IMIDGAIN	<Input Channel>	<Value>		Decreases the current MID EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	ITREBLEGAIN	<Input Channel>	<Value>		Decreases the current TREBLE EQ filter GAIN of an Input Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OLEVEL	<Output Channel>	<Value>		Decreases the current LEVEL of an Output Channel by Value (Value can range from ±1 to ±100)

	OGENVOL	<Value>			Decreases the current LEVEL of the General Volume by Value (Value can range from ±1 to ±100)
	OBASSGAIN	<Input Channel>	<Value>		Decreases the current BASS EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OMIDGAIN	<Input Channel>	<Value>		Decreases the current MID EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
	OTREBLEGAIN	<Input Channel>	<Value>		Decreases the current TREBLE EQ filter GAIN of an Output Channel by Value (Value can range from ±1 to ±200, where 200 means 20.0 -> values are steps like nn.n, with decimal fraction)
SUBSCRIBE	ALL				Subscribes to all VU-meters
	IVU	<Input Channel>			Subscribes to an Input Channel VU-meter
	OVU	<Output Channel>			Subscribes to an Output Channel VU-meter
UNSUBSCRIBE	ALL				Unsubscribe to all VU-meters
	IVU	<Input Channel>			Unsubscribe to an Input Channel VU-meter
	OVU	<Output Channel>			Unsubscribe to an Output Channel VU-meter

Note: INC and DEC commands are replied with a DATA command from the device with the resulting LEVEL value, after it has been increased or decreased. When the INC or DEC command tries to adjust a LEVEL value beyond its minimum or maximum limits, no reply (DATA command) will be produced.

TYPE	PARAM1	PARAM2	PARAM3	PARAM4	DESCRIPTION
DATA	INFO_NAME	"<Device Name>"			Shows the Device Name
	INFO_MODEL	<Device Model>			Shows the Device Model
	INFO_VERSION	<Firmware Version>			Shows the Firmware Version
	INFO_MAC	<Device MAC address>			Shows the Device MAC address
	IP_CONFIG				Shows the Device network configuration. The message will contain **DeviceIP DeviceMask DeviceGateway** (separated by blank characters)
	INFO_IPLIST				Shows the list of clients connected to the Device. The message will contain a list including **ClientNumber ClientIP Client Port** (separated by blank characters)
	INAME	<Input Channel>	<Name>		Shows the NAME (label) of an Input Channel
	ILEVEL	<Input Channel>	<Level>		Shows the current LEVEL of an Input Channel
	IMUTE	<Input Channel>	YES/NO		Shows the current MUTE status of an Input Channel
	IBASSGAIN	<Input Channel>	<Gain>		Shows the current BASS EQ filter GAIN of an Input Channel
	IMIDGAIN	<Input Channel>	<Gain>		Shows the current MID EQ filter GAIN of an Input Channel
	ITREBLEGAIN	<Input Channel>	<Gain>		Shows the current TREBLE EQ filter GAIN of an Input Channel
	IVU	<Input Channel>	<Post Vumeter Level>		Shows the VU-meter value of an Input Channel
	ONAME	<Output Channel>	<Name>		Shows the NAME (label) of an Output Channel
	OLEVEL	<Output Channel>	<Level>		Shows the current LEVEL of an Output Channel

	OMUTE	<Output Channel>	YES/NO		Shows the current MUTE status of an Output Channel
	OGENVOL	<Level>			Shows the current LEVEL of the General Volume
	OMUTEGENVOL	YES/NO			Shows the current MUTE status of the General Volume
	OBASSGAIN	<Input Channel>	<Gain>		Shows the current BASS EQ filter GAIN of an Output Channel
	OMIDGAIN	<Input Channel>	<Gain>		Shows the current MID EQ filter GAIN of an Output Channel
	OTREBLEGAIN	<Input Channel>	<Gain>		Shows the current TREBLE EQ filter GAIN of an Output Channel
	OVU	<Output Channel>	<Post Vumeter Level>		Shows the VU-meter value of an Output Channel
	OSOURCESEL	<Output Channel>	<Input>		Shows the current selected source (input) of an Output Channel. (Input (source) can range from 0 to 16, meaning 0 = no source (silence))
ERROR	<Error ID>	"<Error Description>"			Informs about an error

25 HUB SERIES ERROR CODES

ERROR ID	DESCRIPTION
0	No error. Depending on scenario, can report any of the following: • Device is in TEST MODE • Device is in FACTORY MODE • Last loaded project was incomplete • Now Disconnected
1	Invalid Field MSG
2	Depending on scenario, can report any of the following: • Invalid Field DATA • Invalid Field VALUE • Invalid Field PARAM1
3	Invalid Field CHANNEL
4	Invalid Field VALUE
7	Timeout Waiting PONG
8	CONNECT received while connected
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13	Depending on scenario, can report any of the following: • Invalid Ping Interval value • Invalid Subscription Interval value
14	Maximum number of clients reached
15	Master Mode active

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