

MIMO88

DIGITAL-MATRIZEN

Digitale Einbau-Audiomatrix



BEDIENUNGSANLEITUNG

INHALTSVERZEICHNIS

HARDWARE.....4-21

1	WICHTIGE VORBEMERKUNG	4
2	WICHTIGE SICHERHEITSHINWEISE.....	4
3	WICHTIGER HINWEIS	6
4	EINFÜHRUNG.....	6
5	INSTALLATION.....	7
5.1	<i>Plazierung, Montage und Lüftung.....</i>	<i>7</i>
5.2	<i>Anschluss ans Stromnetz und Einschalten des Geräts.....</i>	<i>8</i>
5.3	<i>Anschluß der Signaleingänge.....</i>	<i>8</i>
5.4	<i>Audioausgangsanschlüsse.....</i>	<i>9</i>
5.5	<i>ETHERNET-Port für Programmierung und Steuerung.....</i>	<i>9</i>
5.5.1	<i>Werkseitig voreingestellte Netzwerkparameter.....</i>	<i>9</i>
5.6	<i>LINK-BUS-Verbindungsport für digitale Audiotechnik.....</i>	<i>10</i>
5.7	<i>REMOTE-Ports 1 und 2 für digitale Fernsteuerung.....</i>	<i>11</i>
5.8	<i>GPI-Ports für Fernsteuerung</i>	<i>11</i>
5.9	<i>GPO-Ports für Fernsteuerung.....</i>	<i>13</i>
5.10	<i>RS-232-Schnittstelle zur Fernsteuerung</i>	<i>13</i>
5.11	<i>Bedienelemente und LED-Anzeigen an der Vorderseite</i>	<i>14</i>
6	REINIGUNG	15
7	FUNKTIONSLISTE	16
8	FUNKTIONSDIAGRAMM.....	17
9	TECHNISCHE DATEN	18
10	BLOCKSCHATBILD.....	21

SOFTWARE.....22-75

11	TP-NET PROTOCOL INTRODUCTION	23
12	NXA DIGITAL AUDIO MANAGER SERIES.....	27
13	NZA MULTICHANNEL AMPLIFIER SERIES	31

14	NPA STEREO AMPLIFIER SERIES	32
15	MIMO88 / MIMO88 CONFERENCE / MIMO88SG / MIMO1212SG (SINGLE) DIGITAL MATRIX.....	35
16	MIMO88SG CONFERENCE DIGITAL MATRIX	40
17	MIMO 7272DN / MIMO4040CDN DIGITAL MATRIX	41
	<i>17.1 MIMO4040CDN: AEC MANAGEMENT.....</i>	<i>46</i>
18	DUO-NET PLAYER AUDIO PLAYER & STREAMING RECEIVER	48
19	ERROR CODES FOR ECLERNET DEVICES.....	54
	<i>19.1 COMMON ERROR CODES (to all EclerNet - TP-NET compatible devices).....</i>	<i>54</i>
	<i>19.2 NXA SERIES SPECIFIC ERROR CODES.....</i>	<i>55</i>
	<i>19.3 NZA SERIES SPECIFIC ERROR CODES.....</i>	<i>56</i>
	<i>19.4 NPA, MIMO7272DN, MIMO4040CDN, MIMO88 & MIMO88 CONFERENCE SERIES SPECIFIC ERROR CODES.....</i>	<i>57</i>
	<i>19.5 MIMO88SG, MIMO1212SG, MIMO88SG CONFERENCE & MIMO1212SG CONFERENCE SERIES SPECIFIC ERROR CODES.....</i>	<i>58</i>
	<i>19.6 DUO-NET PLAYER SPECIFIC ERROR CODES.....</i>	<i>59</i>
20	eMIMO1616 DIGITAL MATRIX.....	60
21	eMIMO1616 ERROR CODES.....	67
22	HUB SERIES DIGITAL ZONER	68
23	HUB SERIES ERROR CODES	75

1 WICHTIGE VORBEMERKUNG




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



Das Blitzsymbol mit dem Pfeil innerhalb eines gleichseitigen Dreiecks soll den Benutzer vor nicht isolierter „gefährlicher Spannung“ innerhalb des Produktgehäuses warnen, die hoch genug ist, um einem Menschen einen elektrischen Schlag zu versetzen.



Das Ausrufezeichen im gleichseitigen Dreieck soll den Benutzer darauf hinweisen, dass er in den mitgelieferten Unterlagen wichtige Hinweise zur Bedienung und Wartung findet.

WARNUNG (falls zutreffend): Bei den mit dem Symbol "  " gekennzeichneten Anschlüsse, kann Stromschlaggefahr bestehen. Die externe Verdrahtung, die an die Klemmen angeschlossen wird, muss von qualifiziertem Personal oder mit vorkonfektionierten Kabeln installiert werden.

WARNUNG: Wegen Feuer- und Stromschlaggefahr, das Gerät niemals Regen oder Feuchtigkeit aussetzen.

WARNUNG: Ein Gerät der Klasse I muss an eine geerdete Steckdose angeschlossen werden.


2 WICHTIGE SICHERHEITSHINWEISE

1. Lesen Sie diese Anleitung sorgfältig durch.
2. Bewahren Sie diese Anleitung gut auf.
3. Beachten Sie alle Warnhinweise.
4. Befolgen Sie alle Anweisungen.
5. Benutzen Sie das Gerät niemals in der Nähe von Wasser.
6. Reinigen Sie das Gerät nur mit einem trockenen Tuch.
7. Blockieren Sie die Lüftungsöffnungen nicht. Installieren Sie das Gerät nach den Anweisungen des Herstellers.
8. Installieren Sie das Gerät nicht in der Nähe von Wärmequellen wie Heizkörpern, Öfen oder sonstigen Geräten, die Wärme erzeugen, einschliesslich Verstärkern.
9. Machen Sie niemals die Schutzfunktion eines polarisierten oder geerdeten Stromkabels unwirksam. Ein polarisiertes Kabel hat zwei Stifte, wovon einer

breiter ist als der andere. Ein geerdeter Stecker hat zwei Stifte und einen Erdungskontakt. Dieser dritte Stift dient Ihrer Sicherheit. Sollte das mitgelieferte Kabel nicht in Ihre Steckdose passen, so wenden Sie sich bitte an einen Elektriker, damit dieser die veraltete Steckdose austauscht.

10. Sorgen Sie dafür, dass das Stromkabel nicht gequetscht wird, vor allem im Bereich der Stecker, der Buchsen und an der Stelle, an der das Kabel aus dem Gerät austritt.
11. Verwenden Sie nur vom Hersteller empfohlenes Zubehör.
12. Trennen Sie das Gerät vom Netz bei Gewitter oder wenn es über einen längeren Zeitraum nicht verwendet wird.
13. Setzen Sie sich bei notwendigen Reparaturen immer mit einem qualifizierten Kundendienst in Verbindung. Eine Reparatur ist erforderlich, wenn das Gerät nicht normal funktioniert oder aus irgendeinem Grund beschädigt wurde, z.B. bei Schäden am Kabel oder Stecker, wenn Flüssigkeiten oder Fremdkörper ins Geräteinnere gelangt sind, oder wenn das Gerät dem Regen ausgesetzt war oder heruntergefallen ist.
14. Trennung vom Stromnetz: Durch die Abschaltung mit dem Schalter POWER werden alle Funktionen und Anzeigen des Geräts außer Betrieb gesetzt. Für eine vollständige Trennung vom Netz ist jedoch das Netzkabel aus seiner Anschlussbuchse zu ziehen. Diese muss daher immer leicht zugänglich sein.
15. Das Gerät ist über das Stromversorgungskabel an eine Schutzkontakt-Steckdose anzuschließen.
16. Ein Teil der Produktbeschriftung befindet sich im Sockel.
17. Dieses Gerät darf keinerlei Tropf- oder Spritzwasser ausgesetzt werden; es dürfen auch keinerlei Gefässe darauf abgestellt werden, die Flüssigkeiten enthalten, z.B. Krüge.



WARNUNG: Dieses Produkt darf unter keinen Umständen als unsortierter Siedlungsabfall entsorgt werden. Entsorgen Sie es bitte bei der nächstgelegenen  Sammelstelle für Elektro- und Elektronikmüll.

NEEC AUDIO BARCELONA, S.L lehnt jegliche Verantwortung für Schäden ab, die Personen, Tieren oder Gegenständen aufgrund der Nichtbeachtung der vorstehenden Warnhinweise zugefügt werden könnten.

3 WICHTIGER HINWEIS

Wir danken Ihnen für das Vertrauen, das Sie mit der Wahl unseres **Digitale Einbau-Audiomatrix MIMO88** in uns gesetzt haben.

Um eine optimale Betriebsfähigkeit und Leistung zu erzielen, ist es **SEHR WICHTIG**, dass Sie vor dem Anschluss des Geräts die in dieser Anleitung enthaltenen Hinweise aufmerksam durchlesen und berücksichtigen.

Für ein optimales Funktionieren des Geräts empfehlen wir Ihnen, die Instandhaltung ausschliesslich von unseren autorisierten technischen Servicepartnern durchführen zu lassen.

Auf den Ecler **MIMO88** gewähren wir eine **Garantie von 3 Jahren**.

4 EINFÜHRUNG

Die MIMO88 ist eine voll programmierbare digitale Audiomatrix mit den folgenden hauptsächlichen Merkmalen:

- 8 symmetrische MICRO/LINE-Eingänge (unabhängige Phantomeinspeisung für jeden Eingangskanal)
- 8 symmetrische LINE-Ausgänge
- 2 MONITOR-Ausgänge, die auch als AUX-Ausgänge genutzt werden können
- Auf 16 Ein-/Ausgänge erweiterbar durch den Anschluss einer zweiten MIMO88 (wodurch eine Matrix mit 16 Ein- und 16 Ausgängen erzielt wird); Geräteverbindung mit Crossover-Kabel Cat. 5 (maximal 100 Meter Entfernung)
- 8 GPI-Kontrolleingänge (*General Purpose Input*)
- 8 GPO-Kontrollausgänge (*General Purpose Output*)
- Fernsteuerung und -programmierung über Ethernet mit EclerNet Manager (von Punkt zu Punkt mit direktem Cat.5-Kabel oder ausgehend von einem Ethernet-Netzpunkt)
- Fernbedienung über Ethernet-Clients des EclerNet Managers: simultane Clients mit individuellem Bedienpanel
- Fernsteuerung mittels externer Vorrichtungen von Drittherstellern (Crestron, AMX, Vity, Medialon, usw, eingetragene Herstellermarken); TP-NET-Protokoll durch Ethernet- oder RS-232-Schnittstelle.
- Fernsteuerbus für digitale WPTOUCH-Panels und Nachrichtenkonsolen (*paging*) MPAGE16
- Steuerung von Konfigurationsspeichern (*presets*)

- Programmierte Ereignisse auf Kalenderbasis
- Umfassende DSP-Möglichkeiten:
 - Router-Mixer-Matrix, von jedem Eingang zu jedem Ausgang, mit einstellbarem Kreuzpunktpegel (unabhängige Mischung von unterschiedlichen Eingängen für jeden Ausgang)
 - Kanäle können in Mono- oder Stereobetrieb arbeiten
 - Pegel, Stummschaltung, VU-Meter und Phaseneinstellung an Ein- und Ausgängen
 - Interner Signalgenerator (Sinussignal, rosa Rauschen, weisses Rauschen, Polaritätstest)
 - parametrischer EQ an den Ein- und Ausgängen
 - Verzögerung an den Ein- und Ausgängen
 - Noise Gate / Kompressor an den Eingangskanälen
 - Kompressor / Limiter an den Ausgängen
 - Prioritäten (*ducking*) unter den Eingangskanälen
 - Virtuelle und physische Nachrichtenkonsolen (*paging*).
 - Automatischer Mischer

Die Programmierung der MIMO88 geschieht über die Anwendung [EclerNet Manager](#). Nähere Information hierzu finden Sie im EclerNet Manager Anwendungshandbuch auf unserer Website www.ecler.com.

5 INSTALLATION

5.1 Platzierung, Montage und Lüftung

Die MIMO88 wurde speziell für die Unterbringung in 19“-Racks konstruiert, wo sie eine HE ausfüllt.

Da der MIMO88 Hitze erzeugt, ist es sehr wichtig, dass er freistehend aufgestellt und keinen extremen Temperaturen ausgesetzt wird. Es muss für freien Abzug der Luft aus den Lüftungsöffnungen des Gehäuses gesorgt werden, das heisst, unterhalb und oberhalb eines installierten Geräts muss jeweils eine HE des Racks freigelassen werden.

Hat eine Anlage mehrere Verstärker im gleichen Rack oder ist eine Anlage in einem mit Türen verschlossenen Schrank eingebaut, so wird wärmstens empfohlen, diese mit nach oben abgeführter Zwangsbelüftung auszustatten, d.h., Einbau von Ventilatoren unten und oben. Dieser nach oben fliessende Lüftungsstrom begünstigt die Abführung der im Inneren des Racks oder Schranks erzeugten Wärme.

5.2 Anschluss ans Stromnetz und Einschalten des Geräts

Der MIMO88 kann mit Wechselstrom zwischen 90 und 264V, 47 bis 63Hz betrieben werden. Dieses Gerät benutzt ein überdimensioniertes Netzteil. Damit passt es sich ohne irgendwelche Einstellungen an alle Weltweit auffindbaren Netzspannungen an.

An der Rückseite befindet sich, dicht beim IEC-Anschluss, der Schalter zum Ein- und Ausschalten des Geräts. An der Vorderseite befindet sich eine LED-Anzeige, die aufleuchtet, wenn das Gerät eingeschaltet ist.

Das Netzkabel darf nicht in der Nähe von den abgeschirmten, signalführenden Leitungen verlegt werden, da dies ein Brummen verursachen könnte.

5.3 Anschluß der Signaleingänge

Die MIMO88 verfügt an ihrer Rückseite über 8 analoge Signaleingänge „IN“; diese sind symmetrisch und lassen Line- und Micropegel zu. Die Auswahl der Signalart des Eingangssignals und seine Steuerung geschieht über die Applikation EclerNet Manager. Nähere Information hierzu finden Sie im EclerNet Manager Anwendungshandbuch auf unserer Website www.ecler.com.

Die Signaleingangsanschlüsse sind vom Typ Schraubleiste mit drei Kontakten. Diese sind wie folgt zugewiesen:

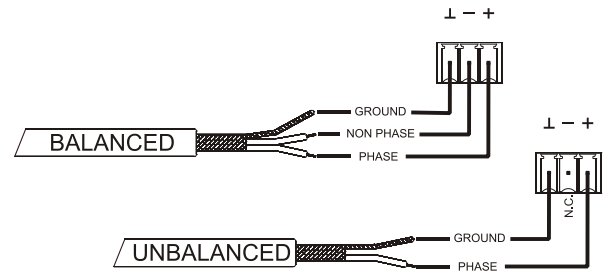
Hot oder direktes Signal	>	Terminal +
Cold oder Phasenverkehrtes Signal	>	Terminal -
Masse	>	Terminal \perp

Für einen unsymmetrierten Anschluß muß Pin \perp nach Pin - kurzgeschlossen werden.

5.4 Audioausgangsanschlüsse

Die MIMO88 verfügt an ihrer Rückseite über 8 analoge Signalausgänge „OUT“ sowie über 2 zusätzliche Monitorausgänge „MONITOR“; diese sind symmetrisch und mit Linepegel.

Die Signalausgangsanschlüsse sind vom Typ Schraubleiste mit drei Kontakten. Diese sind wie folgt zugewiesen:



Hot oder direktes Signal	>	Terminal +
Cold oder Phasenverkehrtes Signal	>	Terminal -
Masse	>	Terminal ⊥

Für asymmetrische Anschlüsse ist der Pin - nicht anzuschliessen.

5.5 ETHERNET-Port für Programmierung und Steuerung

Ein RJ45-Stecker ermöglicht den Anschluss des Geräts an ein Ethernet-Netzwerk:

- Steuerung über die Anwendung EclerNet Manager. Nähere Information hierzu finden Sie im EclerNet Manager Anwendungshandbuch auf unserer Website www.ecler.com.
- Möglichkeit des Direktanschlusses (von Punkt zu Punkt) eines Rechners an eine MIMO88.
- Anschluss an Geräte von Drittherstellern (Crestron, AMX, Vity, Medialon, usw., eingetragene Herstellermarken); Verwendetes Protokoll: Ecler TP-NET. Näheres hierzu finden [Sie in der Anleitung zum TP-NET-Protokoll](#).

5.5.1 Werkseitig voreingestellte Netzwerkparameter

Die werksseitigen Standard-Netzwerkeinstellungen für kompatible Geräte mit EclerNet Manager sind folgende:

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

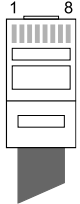
5.6 LINK-BUS-Verbindungsport für digitale Audiotechnik

Ein RJ45-Stecker erlaubt den Anschluss des Geräts an eine zweite MIMO88-Einheit zum bidirektionalen Austausch digitaler Audiosignale und Steuerdaten zwischen beiden Geräten, wobei sich beide Geräte zusammen dann wie eine einzige Matrix mit 16 Eingängen und 16 Ausgängen verhalten. Die maximal zulässige Entfernung zwischen beiden Geräten bei Anschluss über ein Standardkabel der Kategorie 5 beträgt 100 Meter.

Arbeiten zwei MIMO88-Geräte im 16x16-Mode (verbunden über LINK BUS), so arbeitet eins der Geräte als MASTER und das zweite als SLAVE. Der MASTER- oder SLAVE-Mode wird an den Geräten am Wahlschalter an der Rückseite des Geräts eingestellt. Bei Anlagen mit nur einer MIMO88 kann dieser Wahlschalter auf einer beliebigen Position stehen.

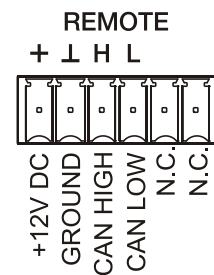
Im 16x16-Mode verhalten sich die beiden Geräte wie ein einziges Gerät mit 16 Eingängen und 16 Ausgängen. Die gesamte Programmierung und Steuerung per Fernbedienung über Ethernet des MASTER-SLAVE-Paars geschieht über die Applikation EclerNet Manager, wobei die Verbindung nur über den Ethernetport des MASTER-Geräts hergestellt wird. Der Ethernetport des SLAVE-Geräts wird nicht benötigt. (Mit Ausnahme von Firmware Updates).

Vorsicht: Für die Verbindung von zwei MIMO88-Geräten über LINK BUS **muss immer ein Crossover-Kabel verwendet werden**, das heisst, ein dezidiertes Kabel CAT5, welches die beiden LINK-BUS-Ports der beiden Geräte bis zu einer maximalen Entfernung von 100 Metern miteinander verbindet, und es darf dazwischen **keinerlei Ethernet- oder sonstige Hardware vorhanden sein**. Nähere Information hierzu finden Sie im EclerNet Manager Anwendungshandbuch auf unserer Website www.ecler.com.

RJ-45 STECKER VERKABELUNG "CROSSOVER"			
RJ-45 (1)	FARBE	RJ-45 (2)	
PIN 1	WEISS/ORANGE	PIN 3	
PIN 2	ORANGE	PIN 6	
PIN 3	WEISS/GRÜN	PIN 1	
PIN 4	BLAU	PIN 7	
PIN 5	WEISS/BLAU	PIN 8	
PIN 6	GRÜN	PIN 2	
PIN 7	WEISS/BRAUN	PIN 4	
PIN 8	BRAUN	PIN 5	

5.7 REMOTE-Ports 1 und 2 für digitale Fernsteuerung

Die REMOTE-Ports 1 und 2 (14) sind zwei Anschlusspunkte des Digitalbusses der Fernsteuergeräte wie zum Beispiel das Wandgerät WPTOUCH oder die Nachrichtenkonsole (*paging*) MPAGE16. An jedes dieser Geräte kann ein Zweig des Digitalbusses angeschlossen werden. In diesen Zweigen sind die verschiedenen Fernsteuergeräte miteinander verkettet (*daisy-chain*) und das letzte dieser Geräte ist mit einem Endwiderstand von 120 Ω zwischen CAN HIGH und CAN LOW belastet.



Nähere Information über den Anschluss und die Steuerung finden Sie in den Unterlagen der jeweiligen Fernsteuergeräte (WPTOUCH, MPAGE16 usw.).

Nähere Information über die Programmierung der MIMO88 für die Betätigung der an REMOTE1 oder REMOTE2 angeschlossenen Fernsteuergeräte finden Sie im EclerNet Manager Anwendungshandbuch auf unserer Website www.ecler.com.

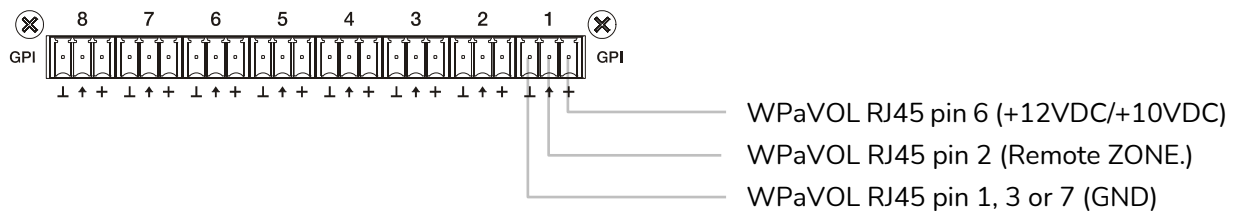
5.8 GPI-Ports für Fernsteuerung

Die MIMO88 verfügt an ihrer Rückseite über 8 GPI-Eingänge (16) zur Kontrolle über Gleichstrom von 0 bis 10 VDC. Jeder dieser Eingänge kann an ein externes Gerät angeschlossen (Potentiometer, Kontaktschluss, variable Gleichspannung 0-10V usw.) und einer Funktion der MIMO88 zugewiesen werden, zum Beispiel:

- Einstellung der Lautstärke des Ein- oder Ausgangskanals oder des Kreuzungspunkts der Audiomatrix über ein physisches Potentiometer WPVOL oder über die Fernbedienung WPVOL-IR aus der WP-Reihe von Ecler
- Aktivierung / Deaktivierung eines MUTE oder SOLO mittels Taster oder Kontaktschluss
- Aufruf eines *preset* mittels Taster oder Kontaktschluss

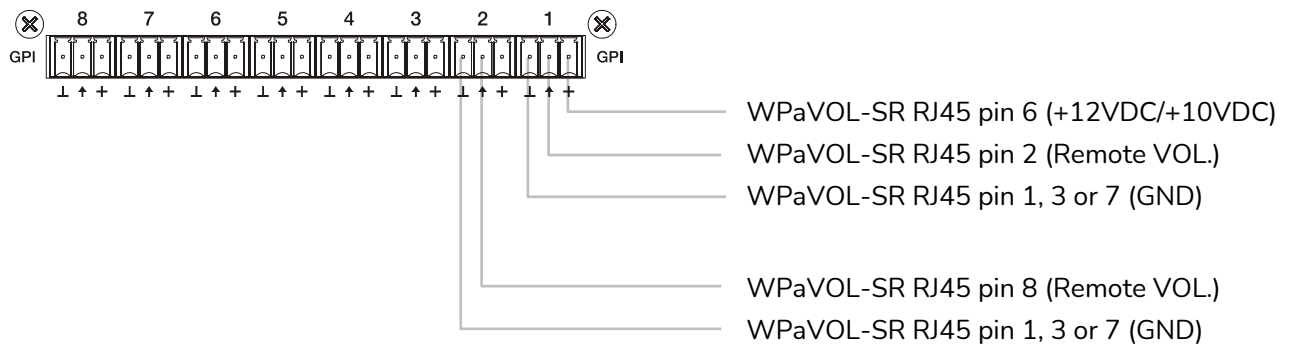
Die GPI-Anschlüsse sind als schraubbare Klemmleiste mit drei Kontakten ausgeführt. Die Anschlüsse sind wie folgt zugewiesen:

- | | | |
|-----------------------------|---|-------------|
| Positiv, +12 VDC | > | Anschluss + |
| Variable Spannung, 0-12 VDC | > | Anschluss ↑ |
| Masse | > | Anschluss ⊥ |



Jumpers position: ALOG / LIN → **LIN position**
 +12 / +10 → **+12 position**

Anschluss WPaVOL an seriellen MIMO-GPI-Ports



Jumpers position: ALOG / LIN → **LIN position**
 +12 / +10 → **+12 position**

Anschluss WPaVOL-SR an seriellen MIMO-GPI-Ports

Die Anschlusskabel können bis zu ca. 500 Meter lang sein, wenn man einen Querschnitt von 0,5 mm² verwendet.

Erkundigen Sie sich bei Ihrem ECLER-Händler oder auf www.ecler.com über die Wandgeräte zur Fernbedienung aus der WP-Reihe und über alles weitere Zubehör für den Anschluss an REMOTE- / VCA-Ports.

5.9 GPO-Ports für Fernsteuerung

Die MIMO88 verfügt an ihrer Rückseite über 8 Relaisausgänge (17) NO / NC (normally open / normally closed). Jeder dieser Ausgänge kann einer Funktion der MIMO88 zugewiesen werden, zum Beispiel einer Taste der Applikation EclerNet

Manager (MUTE-Taste, SOLO-Taste usw.). Auf diese Weise ist das Zusammenspiel mit externen Geräten möglich, z.B. mit Antrieben von Projektionswänden oder beweglichen Trennwänden, mit Lichtern, Sirenen, GPI-Eingängen anderer Geräte usw.

5.10 RS-232-Schnittstelle zur Fernsteuerung

Über den RS-232-Anschluss an der Rückseite kann ein externes Gerät mit einer MIMO88-Einheit seriell Daten austauschen. Der Anschluss arbeitet mit der Syntax des TP-NET-Anschlusses, damit das externe Gerät einzelne Parameterwerte der MIMO88-Einheit (über GET-Befehle) auslesen und / oder entsprechende Werte (SET-Befehle) verändern kann. Näheres hierzu finden [Sie in der Anleitung zum TP-NET-Protokoll](#).

Die serielle Verbindung muss folgende Vorgaben erfüllen:

Baud rate: 57600 (fixed, no autonegotiation)

Data bits: 8

Parity: None

Stop bits: 1

Flow control: None

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

5.11 Bedienelemente und LED-Anzeigen an der Vorderseite

Die MIMO88 verfügt an ihrer Vorderseite über die folgenden Elemente:

- **MONITOR-Ausgang** (mit Kopfhörer-Symbol gekennzeichnet): es handelt sich hierbei um das gleiche Monitoring-Signal, das an der Rückseite des Geräts über die schraubbare Klemmleiste zur Verfügung steht, in diesem Fall im Format ¼" Jack TRS und mit Drehregler zur Lautstärkeinstellung für das Abhören mit Kopfhörern. Diese Funktion ist besonders nützlich für das Abhören der am Gerät anliegenden Eingangs- oder Ausgangssignale ohne den normalen Betrieb des Geräts zu beeinträchtigen. Im 16x16 Mode empfangen beide MIMO Einheiten dasselbe Signal. Die Auswahl des abzuhörenden Signals geschieht mittels Steuerungssoftware EclerNet Manager. Sie im EclerNet Manager Anwendungshandbuch auf unserer Website www.ecler.com.
- **LED-Anzeigen der Eingänge:** diese zeigen an, ob an den Eingängen des Geräts ein Audiosignal anliegt sowie die Pegelintensität dieses Signals (grün, bernsteinfarben und rot - die Farben entsprechen, in dieser Reihenfolge, einer zunehmenden Pegelintensität).
- **LED-Anzeigen der Ausgänge:** diese zeigen an, ob an den Ausgängen des Geräts ein Audiosignal anliegt sowie die Pegelintensität dieses Signals (grün, bernsteinfarben und rot - die Farben entsprechen, in dieser Reihenfolge, einer zunehmenden Pegelintensität).
- **Statusanzeigen LED (STATUS):**
 - **DATA:** Anzeige leuchtet nicht: Es gibt keine Verbindung zum EclerNet Manager, auch wenn das Gerät ans ETHERNET angeschlossen ist. Anzeige leuchtet: an den EclerNet Manager oder über TP-NET-Protokoll an eine Anwendung Dritter angeschlossen. Anzeige blinkt: Datenverkehr mit dem EclerNet Manager oder mit sonstigen Anwendungen
 - **LINK:**
 - 1. Wenn das Gerät als 8x8 MASTER konfiguriert wurde, bleibt die LED-Anzeige aus.
 - 2. Wenn das Gerät als 16x16 MASTER konfiguriert wurde:
 - und das Setup korrekt ist (der SLAVE ist angeschlossen und die Kommunikation ist fehlerfrei), so zeigt die LED-Anzeige ein schnelles Blinken an, abwechselnd grün (50ms) und aus (50ms)
 - und ein Kommunikationsfehler mit dem SLAVE vorliegt, so zeigt die LED-Anzeige ein schnelles Blinken an, abwechselnd grün (50ms) und rot (200ms)

- und kein SLAVE angeschlossen wurde (oder wenn ein zweiter MASTER angeschlossen wurde), so zeigt die LED-Anzeige ein langsames Blinken an, abwechselnd grün (800ms) und rot (200ms)
- 3. Wenn das Gerät als SLAVE konfiguriert wurde:
 - und das Setup korrekt ist (der MASTER ist angeschlossen und die Kommunikation ist fehlerfrei), so zeigt die LED-Anzeige ein schnelles Blinken an, abwechselnd orange (50ms) und aus (50ms)
 - und ein Kommunikationsfehler mit dem MASTER vorliegt, so zeigt die LED-Anzeige ein schnelles Blinken an, abwechselnd orange (50ms) und rot (200ms)
 - und kein MASTER angeschlossen wurde (oder wenn ein zweiter SLAVE angeschlossen wurde), so zeigt die LED-Anzeige ein langsames Blinken an, abwechselnd orange (800ms) und rot (200ms)
- **POWER:** leuchtet, wenn das Gerät eingeschaltet ist. Blinkt die Anzeige, so gibt es eine Störung im Gerät oder die Firmware ist nicht in Ordnung. Blinkt auch bei Update der Firmware.

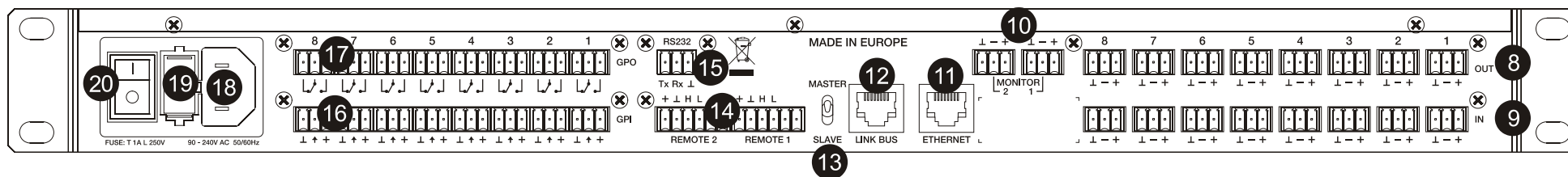
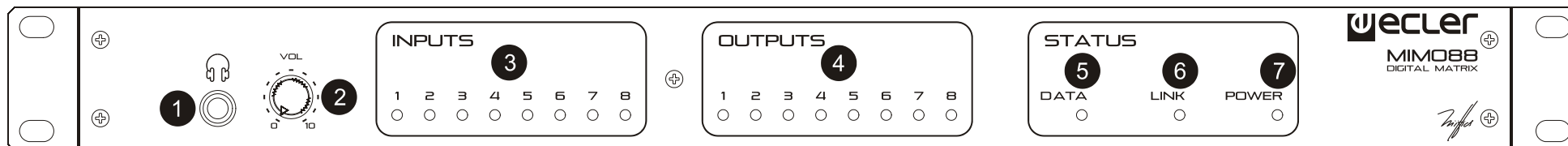
6 REINIGUNG

Die Frontplatte darf nicht mit lösungsmittelhaltigen oder scheuernden Substanzen gereinigt werden, da hierbei die Oberfläche beschädigt werden könnte. Verwenden Sie zur Reinigung der Frontplatte ein feuchtes Tuch und etwas milde Seifenlauge. Trocknen Sie danach die Oberfläche sorgfältig ab. Lassen Sie niemals Wasser in die Öffnungen der Frontplatte gelangen.

7 FUNKTIONSLISTE

1. Stereo Kopfhörerbuchse
2. Lautstärke-Regler für Kopfhörer-Ausgang, VOL
3. Leuchtanzeigen Eingangssignal, INPUTS
4. Leuchtanzeigen Ausgangssignal, OUTPUTS
5. Leuchtanzeige für Datenverkehr, DATA
6. Leuchtanzeige für Verbindung mit anderem Gerät, LINK
7. Leuchtanzeige für Inbetriebsetzung, POWER
8. Schraubbare Klemmleiste Signalausgang, OUT
9. Schraubbare Klemmleiste Signaleingang, IN
10. Schraubbare Klemmleiste Signalausgang, MONITOR
11. RJ45 Buchse, ETHERNET
12. RJ45 Buchse, LINK BUS
13. Master-Slave-Wählschalter, MASTER SLAVE
14. Schraubbare Anschlüsse für digitale Fernbedienung, REMOTE
15. Schraubbare Anschlüsse für Fernsteuerung nach dem Protokoll TP-NET, RS-232
16. Schraubbare Anschlüsse zur Steuerung mit Gleichstrom, GPI
17. Schraubbare Anschlüsse Relaisausgang, GPO
18. Netzanschlußbuchse
19. Sicherungshalter
20. Netzanschluß

8 FUNKTIONSDIAGRAMM



9 TECHNISCHE DATEN

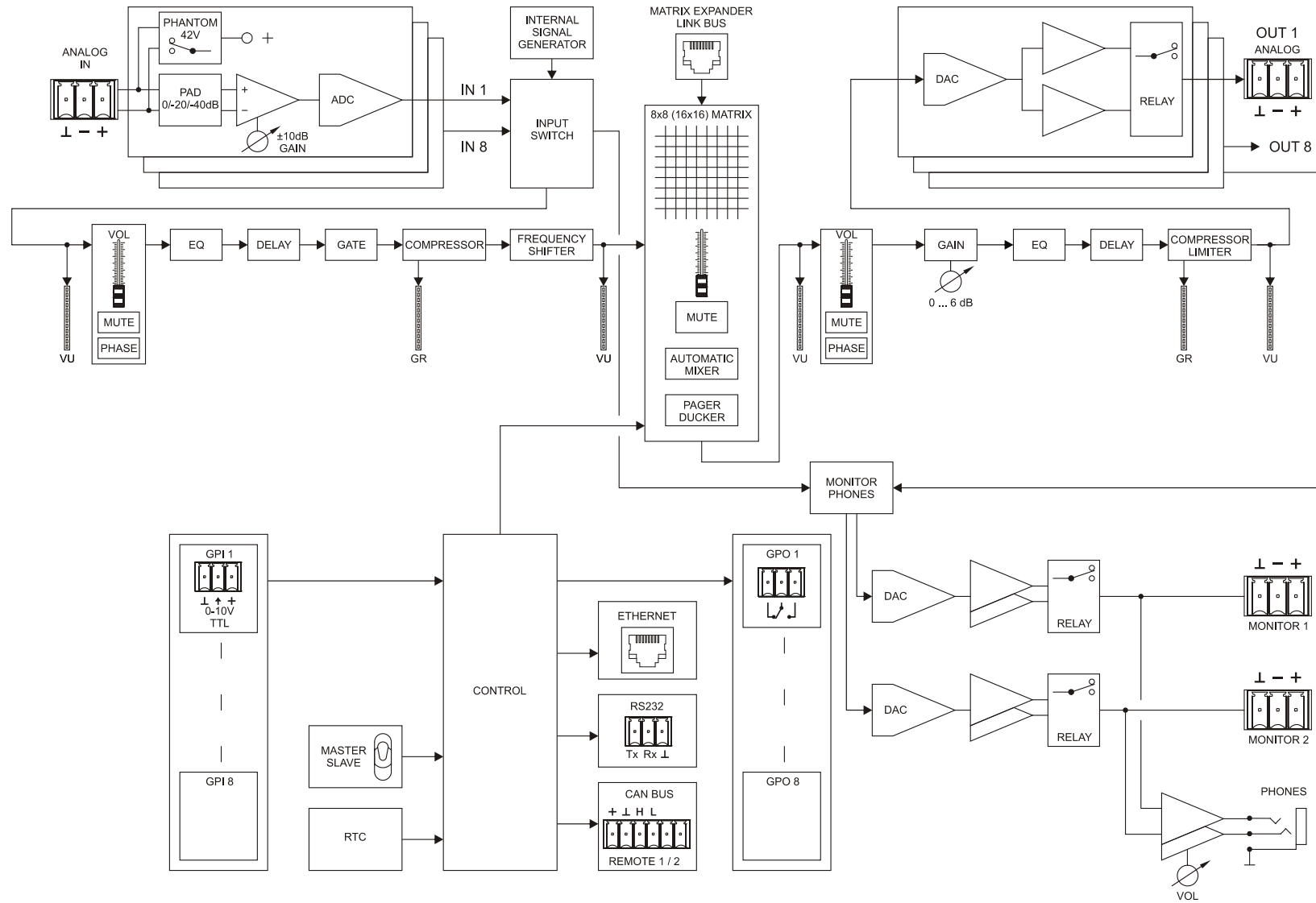
MIMO88

DSP		DSP Sampling Rate Latency IN to OUT	2 x 32/64bit 48kHz <2.9ms (+1ms for 16x16)
Converters		Resolution Dynamic Range	24bit AKM AD:110dB, DA: 115dB
Analogue		8+8 Input/Output 2 monitor output Headphones related Analogue Input headroom Max. output level Input sensitivity @ 0dBV out Input Impedance Phantom power Headphones Frequency response (-3dB) Flatness THD+Noise @ 1kHz, 0dBV input (line) THD+Noise @ 1kHz, -40dBV input (mic.) Output Noise floor FFT (20Hz - 20kHz) Interchannel crosstalk (20Hz - 20kHz) Channel Leakage (20Hz - 20kHz) CMRR 20Hz- 20kHz	Terminal block (Symmetrical) Terminal block (Symmetrical) Jack ¼ +27dBV = +30dBu +18dBV = +21dBu From -50dBV to +10dBV in 0.5dB step Balanced, >4kΩ +42VDC, 5mA max. software switched >200mW/200Ω 5Hz to 24kHz better than ±0.1dB <0.004% <0.008% better than 115dB better than 90dB (100dB typ.) better than 100dB (115dB typ.) 65dB typ.
Processing		Input Level (x8) Output Level (x8) Output Gain Input Delay (x8) Output Delay (x8) Parametric Eq. Types (4 max per input) (8 max per output in 8x8 mode) (4 max per output in 16x16 mode)	Range: from Off to 0 dB Mute: Yes Signal Polarity reverse: Yes Metering: VU+clip pre & post fader Range: from Off to 0 dB Mute: Yes Solo: Yes Signal Polarity reverse: Yes Metering: VU+clip pre & post fader Range: from 0 to +6 dB from 0 to 1000 ms Units: sec/ms/m/cm. from 0 to 1000 ms Units: sec/ms/m/cm. Bypass / On-Off all channels Param Eq. Freq: 20Hz-20kHz Gain: -60/+12 dB Q: 0.3 to 200 Low & High Shelf 6/12 dB/oct

	Low & High Pass 6/12 dB/oct All Pass 1/2 order
High & Low pass output Crossover filters (x8)	Bypass On-Off Butterworth in 6/12/18/24 dB/oct Bessel in 12/18/24 dB/oct Linkwitz-Riley in 12/24 dB/oct
Input Noise Gate (x8)	Bypass On-Off Threshold: from -80 dBV to +18 dBV Depth: 0 dB to 80 dB Attack time: from 0,1 ms. to 500 ms. Hold time: from 10 ms. to 3000 ms. Release time: from 10 ms. to 1000 ms.
Input Compressor / Limiter (x8)	Bypass On-Off Threshold: from -36 dBV to +18 dBV Ratio: 1:1 to inf:1 (limiter) Knee: hard / soft Attack time: from 0,1 ms. to 500 ms. Release time: from 10 ms. to 1000 ms. Make up gain: from 0 to +10 dB
Input Frequency Shifter	Available on all inputs. ON / OFF function
Output Limiter (x8)	Bypass On-Off Threshold: from -36 dBV to +18 dBV Attack time: from 0,1 ms. to 500 ms. Release time: from 10 ms. to 1000 ms.
Built in Signal Generator	Sine: from 20 Hz to 20 kHz Polarity: from 20 Hz to 20 kHz White noise Pink noise
Stereo Linking	Adjacent input / output channels Linked processing Matrix routing linked
Mix Matrix	Size: 8x8 (1-MIMO88) Size: 16x16 (2-MIMO88 with expan. link bus) Vol: Input, Output, Crosspoint Mute: Set/Clear individual, row, column, all Input /output Mono/stereo selector Meter: Input /output VU and clip
Pager	Input: IN1 to IN8 (or to IN16 in 16x16) Priorities: 4(1max) 4 (min) Depth: 0 dB to 80 dB Attack time: from 5 ms. to 2000 ms. Release time: from 50 ms. to 3000 ms. Chime Source: None, Melody 1, Melody 2 Chime Volume: from -12 dB to 0 dB
Mechanical	
Dimensions	482.6x44x266.5mm
Weight	3.5kg

Supply	
Mains	90-264VCA 47-63Hz
Power consumption	45VA
Miscellaneous	
Management Connectivity	Ethernet Base-Tx 10/100Mb Auto X-Over CAT5 up to 100m.
Expansion LINK BUS (16x16 ch.)	Proprietary over CAT5, Xover cable up to 100m.
Remote Bus	2, over twisted pairs; up to 1km (see specific specs.)
GPI	8, from 0 to 10VDC or TTL level
GPO	8, 3 poles isolated relay; 1A, 48VDC max.
Aux. Power Supply for Remotes & GPI	+12VDC, 1.2A. max. (short circuit protected)
Time and date retention (battery)	1 month approx. (ambient temperature dependant)
RTC accuracy	±1 minute /year
SOFTWARE	
EclerNet Software	Realtime full GUI of all functions and controls thru Ethernet with interactive graphical display Grouping mode channels or devices Grouping of other groups Automated report generation Up to 256 devices on same net Autodiscovery devices feature Routing capability through NAT gateways Real time metering at input/output (DSP) Device "Finder" feature Save & Recall setup and preset functions Firmware update capability thru Ethernet Password protection (device & project with two user levels) Default Network configuration: IP: 192.168.0.100 Mask: 255.255.255.0 Gate: 192.168.0.1 UDP Port: 2210
Operating System	Windows® 10; W8.1; W8; W7; Vista (SP1); XP Prof. (SP3); W2000 Prof. (SP4)
Minimum EclerNet System Requirements	Pentium IV @ 1GHz 512MB RAM 40MB HDD free space 800x600 pixels & 16bits color display 10/100/1G Ethernet Network card

10 BLOCKSCHATBILD



TP-NET PROTOCOL

SOFTWARE

Third-Party NET

USER MANUAL

11 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, except for DUO-NET PLAYER, eMIMO1616, HUB series and MIMO4040CDN, 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

12 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
	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.

13 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
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14 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

15 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

16 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
UNSUBSCRIBE	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)

17 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

	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)	

17.1 MIMO4040CDN: AEC MANAGEMENT

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

18 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
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

UNSUBSCRIBE	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: <i>DATA IP_CONFIG</i> <i>192.168.0.6 5000</i> <i>255.255.0.0 192.168.0.1</i>
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

19 ERROR CODES FOR ECLERNET DEVICES

19.1 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,

19.2 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,

19.3 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,

19.4 NPA, MIMO7272DN, MIMO4040CDN, MIMO88 & MIMO88 CONFERENCE 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,

19.5 MIMO88SG, MIMO1212SG, MIMO88SG CONFERENCE & MIMO1212SG CONFERENCE 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_INVALID_LEVEL_VALUE,
17	UDP_ERROR_INVALID_RATE_VALUE,

19.6 DUO-NET PLAYER SPECIFIC ERROR CODES

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,

20 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

21 eMIMO1616 ERROR CODES

ERROR ID	DESCRIPTION
0	No error. Depending on scenario, can report any of the following: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Invalid Ping Interval value • Invalid Subscription Interval value
14	Maximum number of clients reached
15	Master Mode active

22 HUB SERIES DIGITAL ZONER

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
	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

23 HUB SERIES ERROR CODES

ERROR ID	DESCRIPTION
0	No error. Depending on scenario, can report any of the following: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Invalid Ping Interval value • Invalid Subscription Interval value
14	Maximum number of clients reached
15	Master Mode active



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