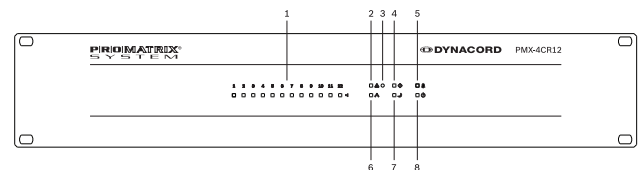# PMX-4CR12 Controller

- Public address and emergency sound system control unit

- Control and routing of 4 simultaneous audio channels

- One controller supports 12 zones, expandable up-to 492 zones with 24-zone routers

- Four controllers can be networked using OMNEO interface module

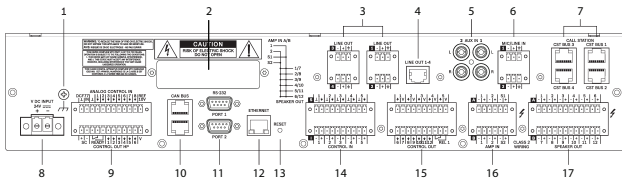- EN 54-16 and ISO 7240-16 system certification

The PMX-4CR12 controller is the central paging manager for the PROMATRIX 6000 system. Eight local audio inputs can be switched to four audio outputs. A two channel message manager is integrated. The controller provides all the audio processing, supervision and control functions for a complete PROMATRIX 6000 system. A single controller supports up to 16 call stations and 492 paging zones. The controller is equipped with 12 zones, 18 GPIs and 19 GPOs. One controller can handle up to 2000 W loudspeaker load. Additional zones and power can be added by using up to 20 external routers and 40 amplifiers with each 2 × 500 W. The zone indicator lights on the front indicate the current status of every zone:
- Green: Zone in use for non-emergency purpose
- Red: Zone in use for emergency purpose
- Yellow: Zone fault detected
- Off: Zone in idle condition

System overview

1   Zone status indicator light

2   Combined fault warning indicator light

3   Recessed button

4   System fault indicator light

5   Voice alarm indicator light

6   Network indicator light

7   Standby indicator light

8   Power indicator light

1 Grounding screw

2 Blind cover for optional OM-1 Module

3 LINE OUT 1-4 ports (Euroblock)

4 LINE OUT 1-4 port (RJ-45)

5 AUX IN 1/2 ports (RCA)

6 MIC/LINE IN 1/2 ports (Euroblock)

7 CST BUS 1-4 ports (RJ-45, for connection of call station)

8 DC power input

9 CONTROL IN/OUT port (including pins for DCF77 and slave clock)

10 CAN BUS port

11 RS-232 ports

12 ETHERNET port

13 Reset button

14 CONTROL IN ports

15 CONTROL OUT ports

16 AMP IN ports

17 SPEAKER OUT ports

Parts included

Quantity	Component
1	PMX-4CR12 Controller
1	Set of connectors
1	Set of feet
1	Operation manual
1	Important safety instructions

Technical specifications

Electrical

Audio	8 audio inputs, 4 audio outputs
Safety/redundancy	Internal supervision, system monitoring, watchdog, fault output

PC configuration and control software	• Configuration Wizard: Easy system configuration. • IRIS-Net: Integration of controller, amplifiers, call stations, routers and peripheral control; configuration, control, and supervision for complete audio systems; programmable user control panels and access levels. • Hot Swapper (included in IRIS-Net package): Easy updating of messages during runtime.
Frequency response (ref. 1 kHz)	20 Hz to 20 kHz (-0.5 dB)
Signal-to-noise ratio (A-weighted)	Line in to line out: 106 dB typical
THD+N	< 0.05%
Crosstalk (line level)	Line in to line out (0 dB gain): < 100 dB at 1 kHz
Sample rate	48 kHz
DSP processing resolution	24-bit linear A/D and D/A conversion, 48-bit processing
Audio inputs (microphone/line level)	MIC/LINE: 2 × 3-pin port, electronically symmetric AUX: 2 × Stereo RCA
• Input level (nominal)	MIC/LINE: 15 dBu AUX: 9 dBu
• Input level (max. before clip)	MIC/LINE: 18 dBu AUX: 12 dBu
• Input impedances	MIC/LINE: 2.2 kΩ AUX: 8 kΩ
• Common mode rejection	MIC/LINE: > 50 dB
• Phantom power, switchable	MIC/LINE: 48 V DC
• A/D conversion	24 Bit, Sigma-Delta, 128 times oversampling
Audio inputs (100 V)	AMP IN: 2 × 6-pin port
• Max. voltage	120 V
• Max. current	7.2 A
• Max. power	500 W
• Signal detection	≥ 3 V

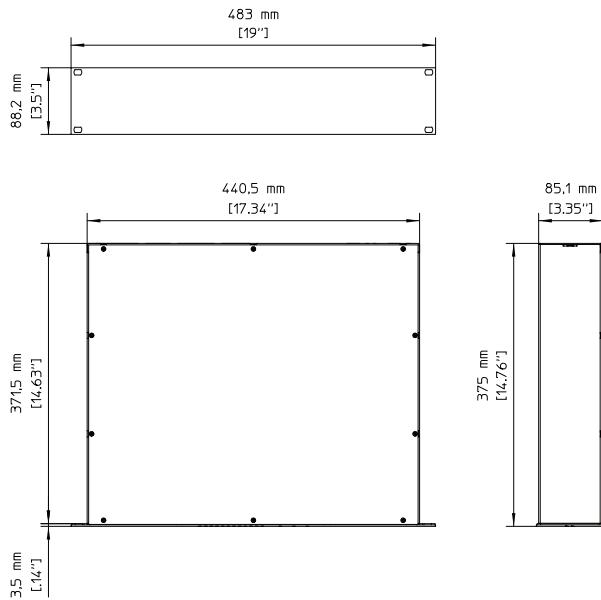|	
Audio outputs (line level)	LINE OUT: 1 x RJ-45, 4 x 3-pin port
• Output level (nominal)	6 dBu
• Output level (max. before clip)	9 dBu
• Output impedance	<50 Ω
• Min. load impedance	400 Ω
• D/A conversion	24 Bit, Sigma-Delta, 128 times oversampling
Audio outputs (100 V)	SPEAKER OUT: 2 × 12-pin port
• Max. voltage	120 Veff
• Max. current	7.2 A
• Max. power	500 W
• Crosstalk (100 V)	AMP IN to SPEAKER OUT: < 100 dB at 1 kHz with 1 kΩ load
• Breakdown voltage	Pole - Pole: 120 Veff, Pole - Ground: 60 Veff
Call station bus (CST)	4 × integrated power +CAN+audio interface, RJ-45
• Power	+24 V DC, electronic fuse
• CAN	10, 20 or 62.5 kbit/s
• Audio	electronically symmetric
• Max. length	1000 m
ANALOG CONTROL IN	1 × 12-pin port
• Control inputs	• 8 (analog 0-10 V/logic control; low: $U \leq 5$ V DC; high: $U \geq 10$ V DC; U_{max} = 32 V DC)
• Reference outputs	• +10 V, 100 mA • GND
• Time sync input	1 (DCF-77 receiver)
CONTROL OUT HP	1 × 12-pin port
• Control outputs	• 6 High Power outputs (open collector, U_{max} = 32 V, I_{max} = 1 A)
• Reference output V	• +24 V, I_{max} = 200 mA
• Ready/fault output	1 (NO/NC relay contacts, U_{max} = 32 V, I_{max} = 1 A)
• Slave clock output	1 (24 V DC, max. 1 A)
CONTROL IN	2 × 10-pin port
• Control inputs	• 5 supervised inputs (0-24 V, U_{max} = 32 V) • 5 isolated inputs (low: $U \leq 5$ V DC; high: $U \geq 10$ V DC; U_{max} = 32 V)
CONTROL OUT	2 × 10-pin port
• Control outputs	12 Low Power outputs (open collector, U_{max} = 32 V, I_{max} = 40 mA)
• Control relay	1 (NO/NC relay contacts, U_{max} = 32 V, I_{max} = 1 A)
Interfaces	
• Ethernet	1 x RJ-45, 10/100 MB (for PC connection)
• CAN BUS port	2 x RJ-45, 10 to 500 kbit/s (for amplifier, router connection)
• OM-1 interface Module (optional)	Ethernet connectors (Primary/Secondary) 100/1000 Mbit/s, RJ-45, integrated transformer isolation
• RTC clock accuracy	±4 minutes/month
DC power input	21 to 32 V DC
Power consumption	10 to 250 W
Maximum supply current (24V)	
• Standby	< 600mA + external load
• Idle/announcement/alert	< 800mA + external load

Environmental

Operating temperature	-5 °C to +45 °C (+23 °F to +113 °F)
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity (non-condensing)	5% to 90%
Altitude	Up to 2000 m

Mechanical

Dimensions (HxWxD)	88 mm x 483 mm × 375 mm (2 RU)
Weight (net)	8.0 kg
Mounting	Standalone; 19 in. rack
Color	Black

Dimensions

Certifications and approvals

Emergency standard certifications	
Europe	EN 54-16
International	ISO 7240-16

Environmental directive compliance	
Safety	EN 60065
Immunity	EN 50130-4
Emissions	EN 61000-6-3
Environment	EN 50581
Maritime	EN 60945

Conformity	
Europe	CE/CPR
Environment	RoHS

Ordering information

PMX-4CR12 Controller
System controller for audio processing, routing and supervision of a PROMATRIX system, rack unit 2 RU
Order number **PMX-4CR12**