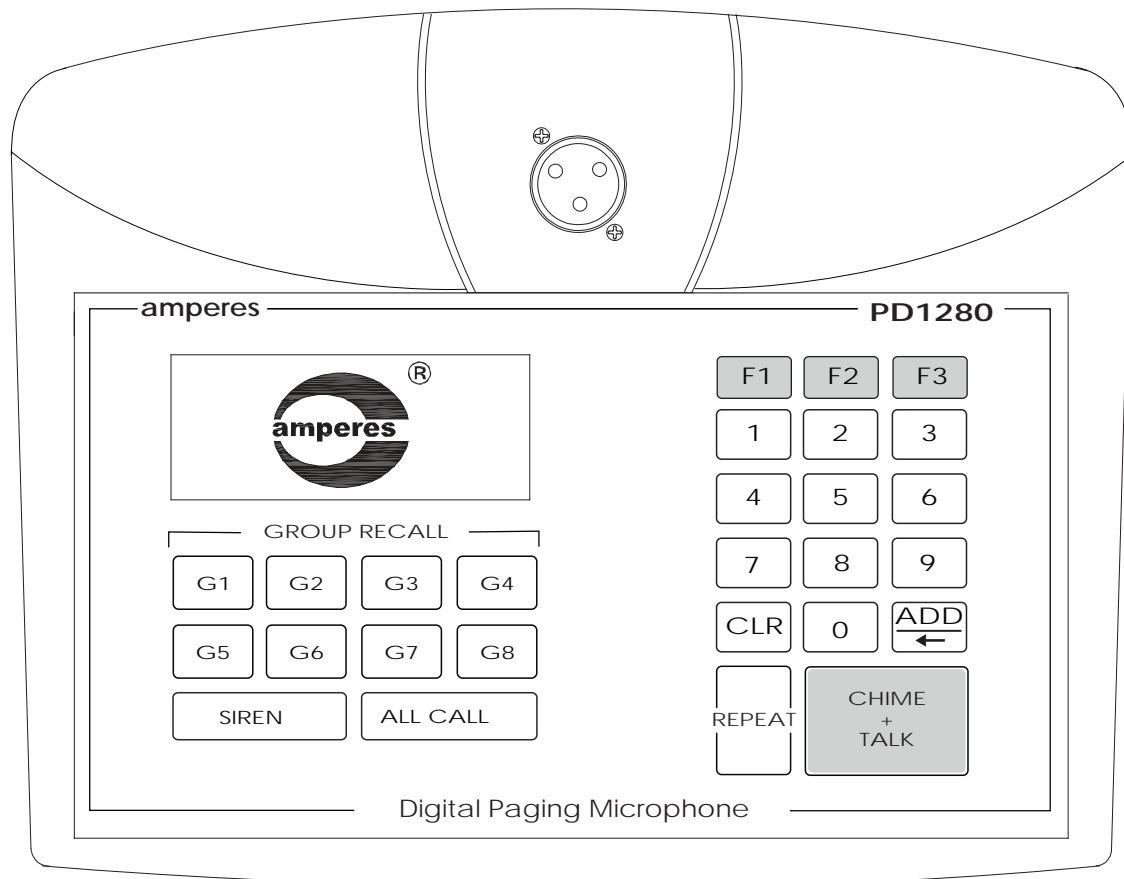# PD1280

DIGITAL PAGING MICROPHONE

version 1/13
harmonised protocol

Thank you for choosing another quality product from Amperes Electronics.

Amperes has upgraded the protocols in PD series paging microphones, MatriMix as well as PMX system. With this harmonised data, all the equipments can be used or interchanged seamlessly. As such, the firmware of TD6240 has been upgraded as well, to cater for the needs.

We shall endeavor to make products with contemporary needs and yet expandable for future upgrades. We are sure you make the right decision to choose Amperes, which is not only offering the product that meets your budget, but perform beyond your expectation.

We appreciate that you read through the manual to avoid any mishandling as well as to explore the full potential this unit can offer. Keep this manual for future reference and we believe that you are getting an optimum product in its class.
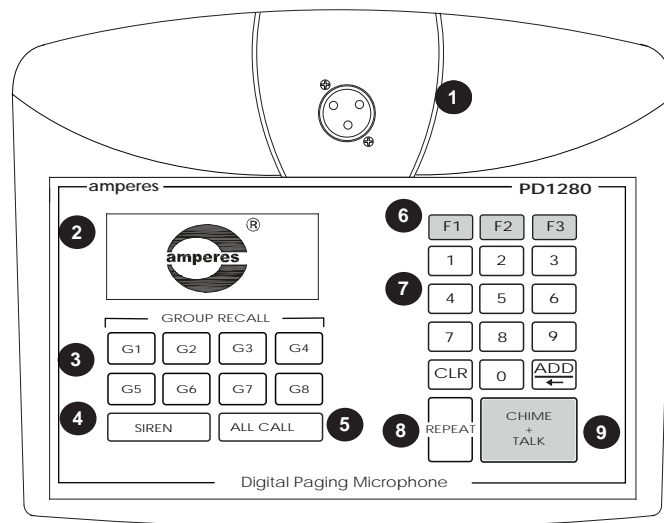
Product Descriptions

PD1240 and PD1280 shall be the next generation of desktop paging microphones from Amperes. They are enhanced versions of the popular PD2400 series, featuring soft touch sensor buttons to meet today's aesthetic demands.

Common specifications from PD2000 series are included but further improved with better sound delivery, thanks to the embedded sound processor. Features available include priority level assignment, multipoint paging setup, chime and microphone volume controls as well as illuminated gooseneck microphone.
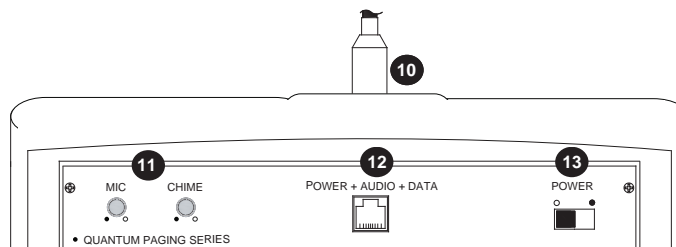
The search for contemporary design with unsurpassed features ends with PD1280. It is suitable for large scale installations, of up to 256 zones, multi point paging stations with 9 priority levels, soft touch buttons and big LCD graphic panel for ease of monitoring and programming.

Parts Identification

PD1280
Top View

amperes   PD1280

GROUP RECALL

G1 G2 G3 G4
G5 G6 G7 G8
SIREN   ALL CALL

F1 F2 F3
1 2 3
4 5 6
7 8 9
CLR 0 ADD

REPEAT   CHIME + TALK

Digital Paging Microphone

rear view

MIC   CHIME   POWER + AUDIO + DATA   POWER
QUANTUM PAGING SERIES
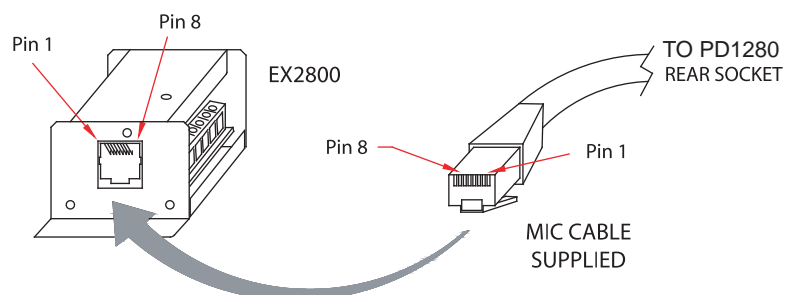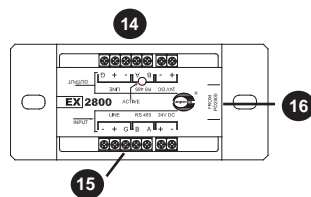
EX2800

Pin 1
Pin 8
EX2800

TO PD1280
REAR SOCKET

Pin 8
Pin 1

MIC CABLE
SUPPLIED

Pin 1 - Data A
Pin 2 - Data B
Pin 3 - Relay Trigger Signal
Pin 4 - NC

Pin 5 - +24V Supply
Pin 6 - Audio -ve output
Pin 7 - Ground
Pin 8 - Audio +ve output

1. PAGING MICROPHONE INLET

XLR inlet for gooseneck microphone. Use only condenser microphone supplied or those operates under 3 to 9 V.

2. LCD DISPLAY

Factory default display is with back light. User has the option to turn off. Please refer to setup section.

3. GROUP RECALL

It is used for programming & recall zone grouping during G1 ~ G8 button.

4. SIREN BUTTON

Press this siren button the LCD shall show the 'Siren Active', after that press the 'Chime & Talk' button shall activate the EP1200A to siren mode.

5. ALL CALL BUTTON

Mic shall be activated instantly without chime, triggering all normal zones. Note that making ALL CALLs will not trigger the overriding relay at the zone selectors, thus the volume controllers set at minimum shall not be overrided.

6. F1 ~ F3 BUTTON

This button for future add-on other function.

7. KEYPAD

Zone selections and programming are done via these keypad.

8. REPEAT BUTTON

Press repeat button for recall previous zone selection.

9. CHIME AND TALK BUTTON

Select the zones required before pressing this button. A chime shall start (if selected) and followed by mic activation, which is indicated by the illuminated ring at the microphone.

10. GOOSENECK MICROPHONE

This detachable condenser mic comes with illuminated ring when the mic is in active mode and ready for paging.

11. CHIME & MIC VOLUME CONTROL

Individual volume for chime and microphone output level can be adjusted according to site requirement.

12.OUTPUT CONNECTION

Connet the RJ45 cable to EX2800 for power, data and audio. If the paging mic is located near the decoder at the rack (within 50m), the cable can be connected directly to TD6240 / TD6080 / MxP2188 without using EX2800.

13. POWER SWITCH

Switch for 24V power to unit..

14. DATA / AUDIO OUTPUT (EX2800)

Data and audio are linked to TD6240 decoder unit using 2 pair screen cable. Please refer to ' Connecting the Unit' for detailed connection diagram.

**15. DATA / AUDIO INPUT LINK / DC SUPPLY (EX2800)**

Data and audio from other EX2800 (if any) are fed to this port forming a circuit. This connection is applicable only if multipoint paging setup is establised. Use a DC24V power adaptor supplied for powering the unit.

16. PAGING MIC CONNECTION (EX2800)

Connect to the paging mic via this RJ45 connector. For pin configuration, refer to the diagram.

PD1280 Paging Mic
Unit 2

PD1280 Paging Mic
Unit 1

PD1280 Paging Mic
Unit 3
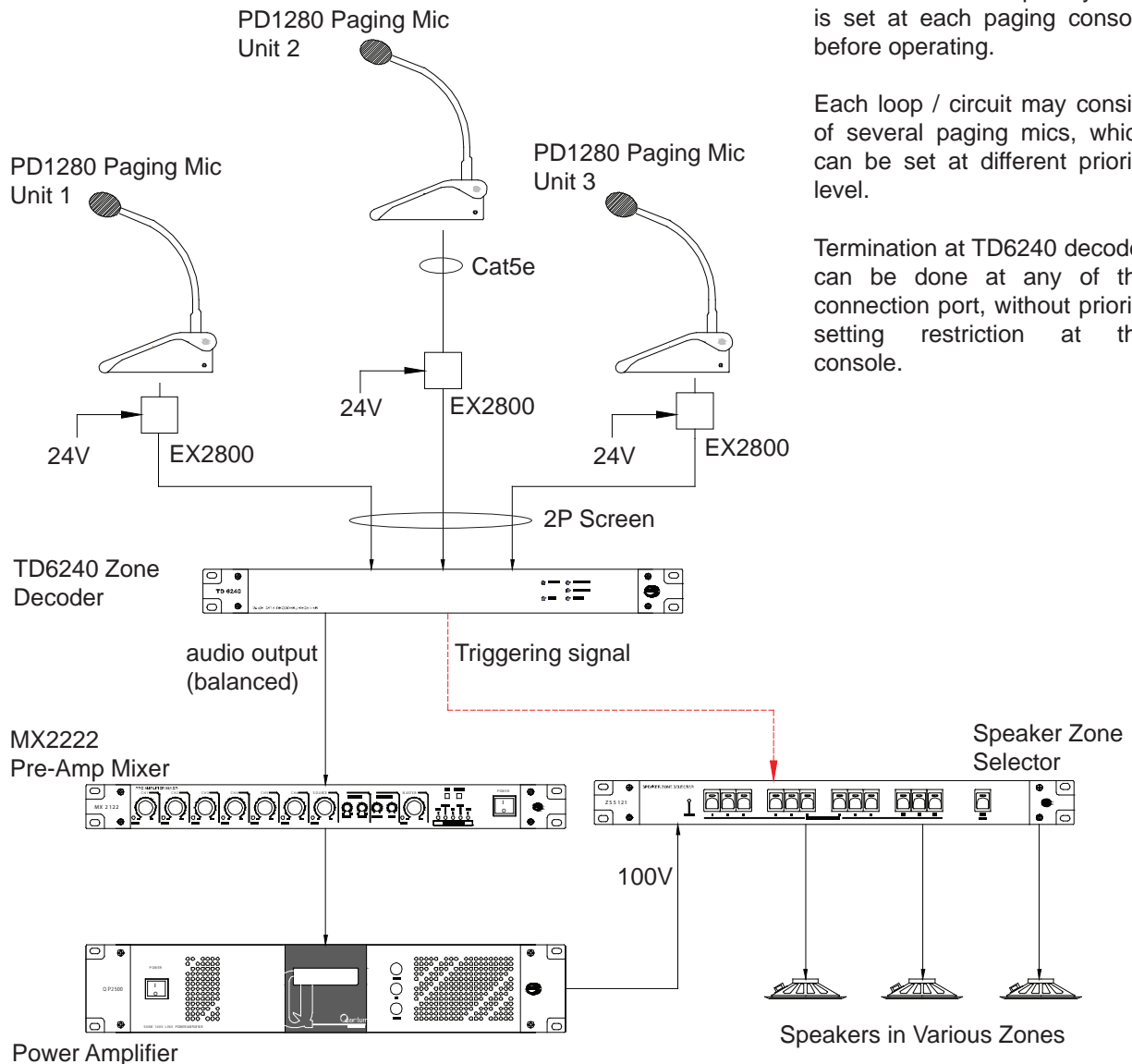
Please ensure that priority level is set at each paging console before operating.

Each loop / circuit may consist of several paging mics, which can be set at different priority level.

Termination at TD6240 decoder can be done at any of the connection port, without priority setting restriction at the console.

Cat5e

24V   EX2800

24V   EX2800

24V   EX2800

2P Screen

TD6240 Zone
Decoder

audio output
(balanced)

Triggering signal

MX2222
Pre-Amp Mixer

Speaker Zone
Selector

100V

Power Amplifier

Speakers in Various Zones

Other complementary equipment may be required in the system such as :
EP1200 for Emergency Paging and overriding
AX3700 / AX700 / AC3601 Amplifier Changeover Panel for standby amp fault changeover
BC9730 / PS9400 Battery Charger and Power Supply
VR7600 Zone Volume control panel

Note on priority setting :

If the system consist of several paging mic with same priority ;
The one activated earlier shall remain active and the other shall remain in busy mode. It is as first come first serve mode.

If the system consist of several paging mic with different priority :
The one with higher priority shall override the unit with lower priority even though the latter is in paging mode.
If lower priority unit would have busy LED blinking when the higher priority is active.

Priority 1 (highest) .... Priority 9 (lowest)

PD1280

iPX5150 iP CLIENT

Fiber Optic Converter

SM / MM fiber connection

Fiber Optic Converter

Network Switch

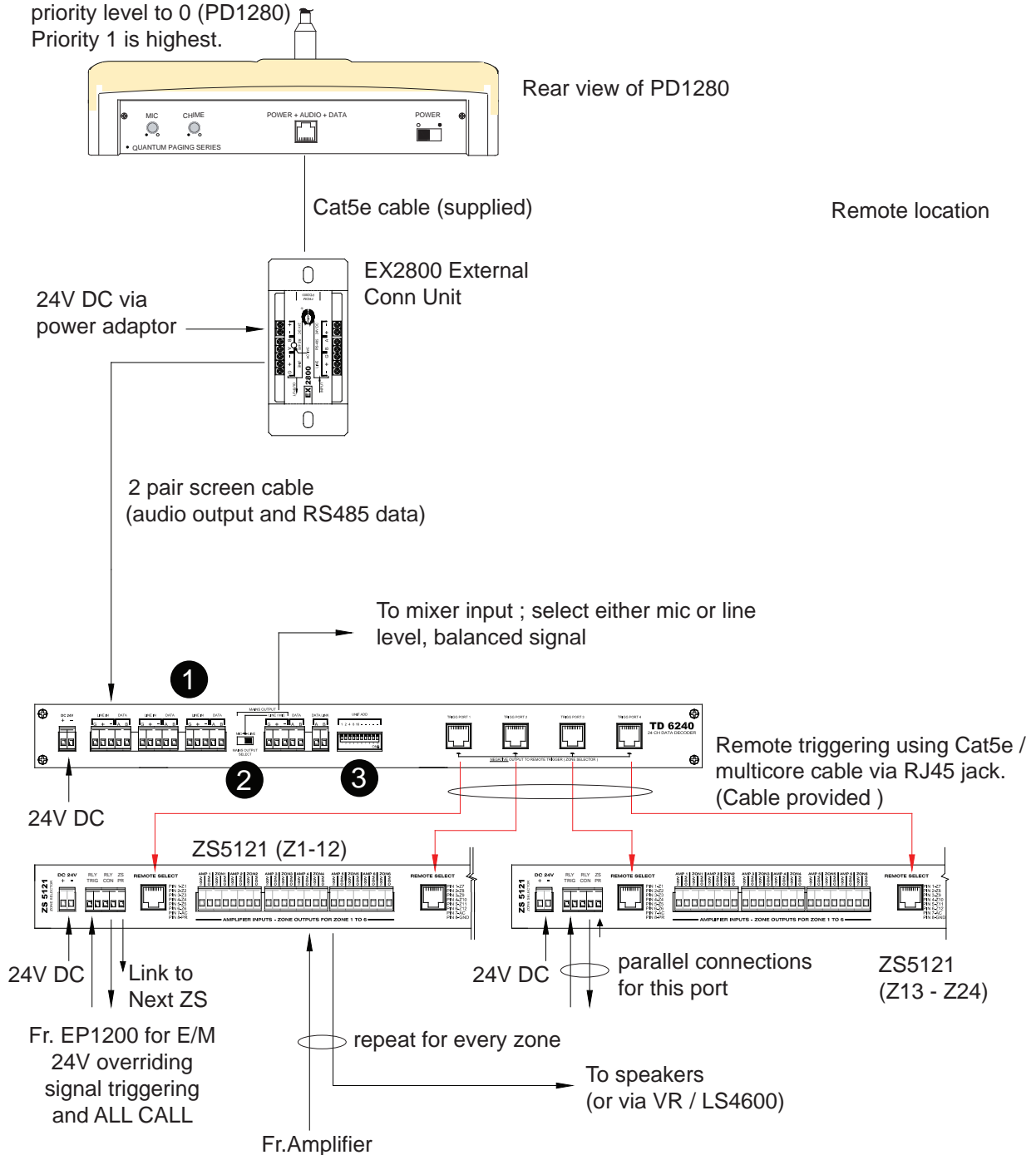iPX5100 iP SERVER

iPX5150 iP CLIENT

MxP2188 MATRIX MIXER
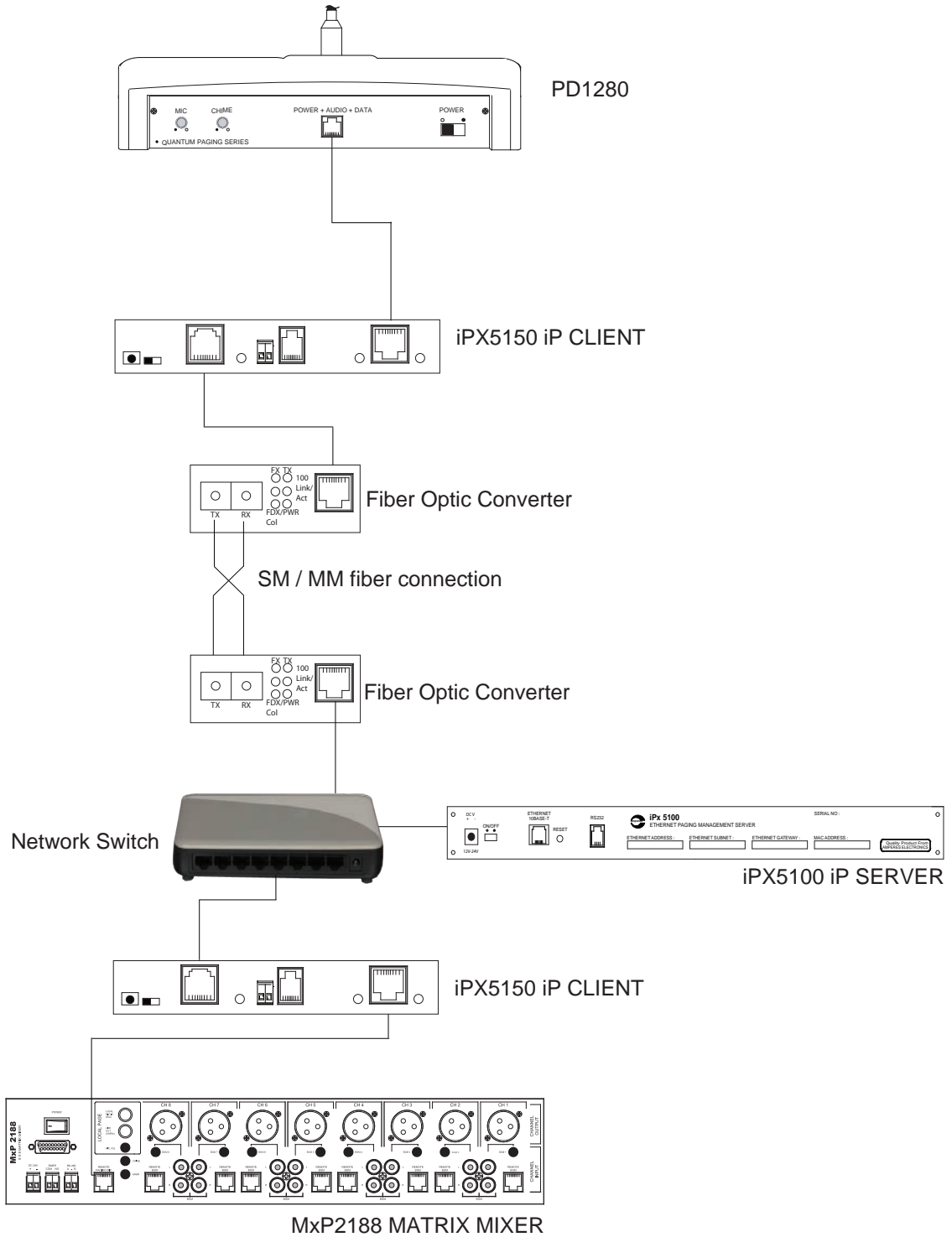
The Diagram shows the connectivity using Fiber Optic for long distance mic connectivity with IP setup. Multipoint paging setup is possible and the paging mic shall operate in similar manner as of using conventional system.

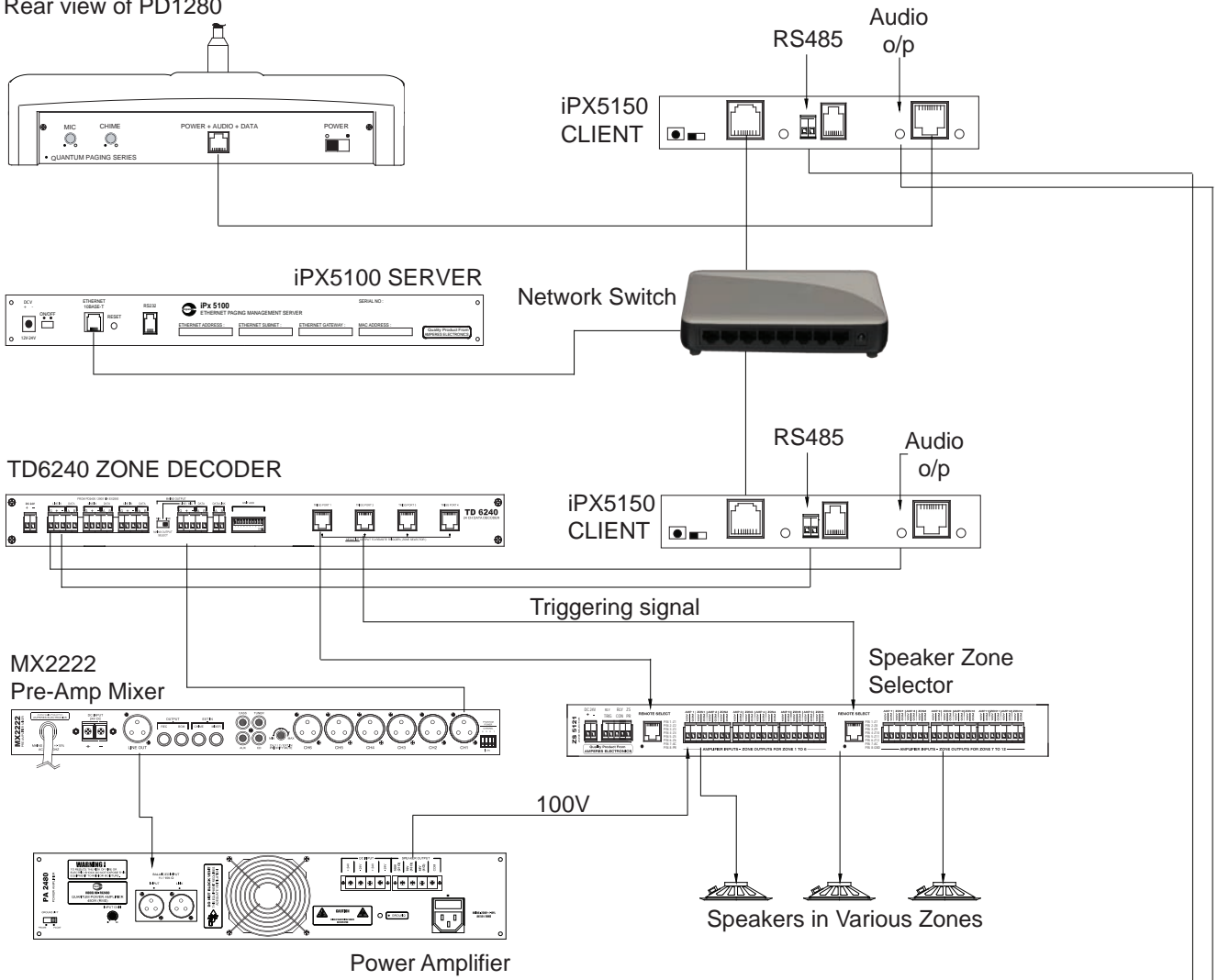For Single unit paging mic, set priority level to 0 (PD1280) Priority 1 is highest.

Rear view of PD1280

Cat5e cable (supplied)

Remote location

EX2800 External Conn Unit

24V DC via power adaptor

2 pair screen cable (audio output and RS485 data)

To mixer input ; select either mic or line level, balanced signal

1

2 **3**

TD 6240

Remote triggering using Cat5e / multicore cable via RJ45 jack. (Cable provided)

24V DC

ZS5121 (Z1-12)

ZS5121 (Z13 - Z24)

24V DC | Link to Next ZS

24V DC | parallel connections for this port

Fr. EP1200 for E/M 24V overriding signal triggering and ALL CALL

repeat for every zone

To speakers (or via VR / LS4600)
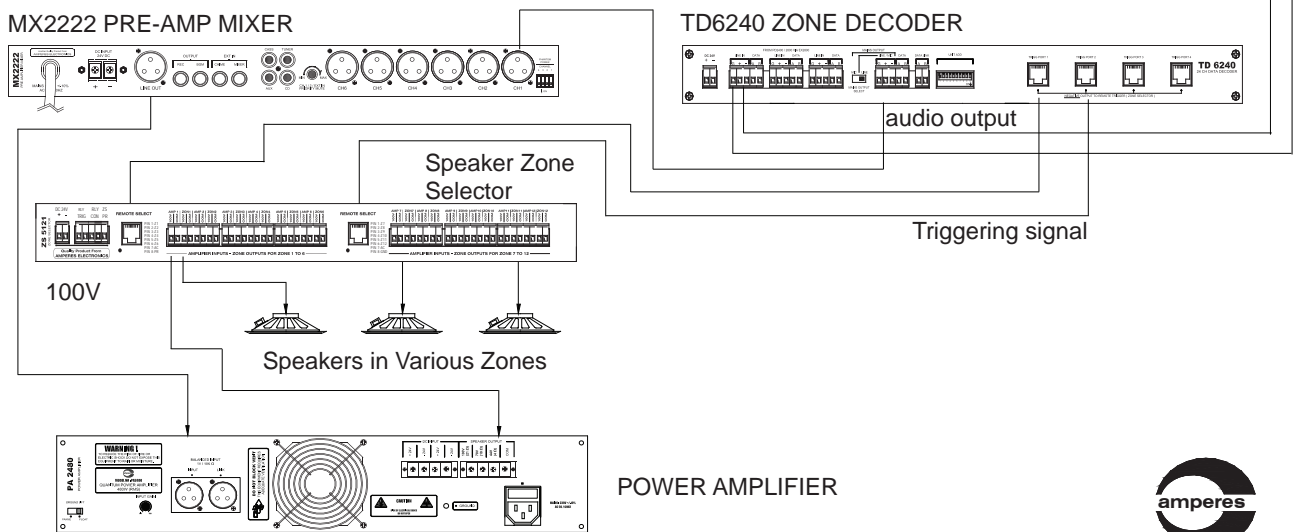
Fr.Amplifier

1 Paging mic can be connected to any of the port regardless of the priority setting at the paging console.

2 Use this switch to select the audio output level ; mic or line level when connecting to pre-amplifier mixer

3 Set unit address ; each address represents one unit of decoder of 24 zones.
example : 10000 0000 - Zone 1 to 24
01000 0000 - Zone 25 to 48

Rear view of PD1280

MIC   CHIME   POWER + AUDIO + DATA   POWER

• QUANTUM PAGING SERIES

RS485   Audio o/p

iPX5150 CLIENT

iPX5100 SERVER

Network Switch

RS485   Audio o/p

TD6240 ZONE DECODER

iPX5150 CLIENT

Triggering signal

MX2222 Pre-Amp Mixer

Speaker Zone Selector

100V

Power Amplifier

Speakers in Various Zones

LOCAL

- -

REMOTE

MX2222 PRE-AMP MIXER

TD6240 ZONE DECODER

audio output

Speaker Zone Selector

Triggering signal

100V

Speakers in Various Zones

POWER AMPLIFIER

amperes

PD1280

MIC CHIME POWER + AUDIO + DATA POWER
QUANTUM PAGING SERIES

Cat5e

24V DC

EX2800

2P Screen

PD1280

MIC CHIME POWER + AUDIO + DATA POWER
QUANTUM PAGING SERIES

24V DC

EX2800

2 nos Paging Mic in same circuit.
Note :
Can be set to either different priority or same level.

PD1280

MIC CHIME POWER + AUDIO + DATA POWER
QUANTUM PAGING SERIES

24V DC

EX2800

PD1280

MIC CHIME POWER + AUDIO + DATA POWER
QUANTUM PAGING SERIES

24V DC

EX2800

2 pair screen cable

TD6240

TD 6240

1. Data A
2. Data B
3. Audio +ve
4. Audio -ve
5. Screen - Ground

2 pair screen cable

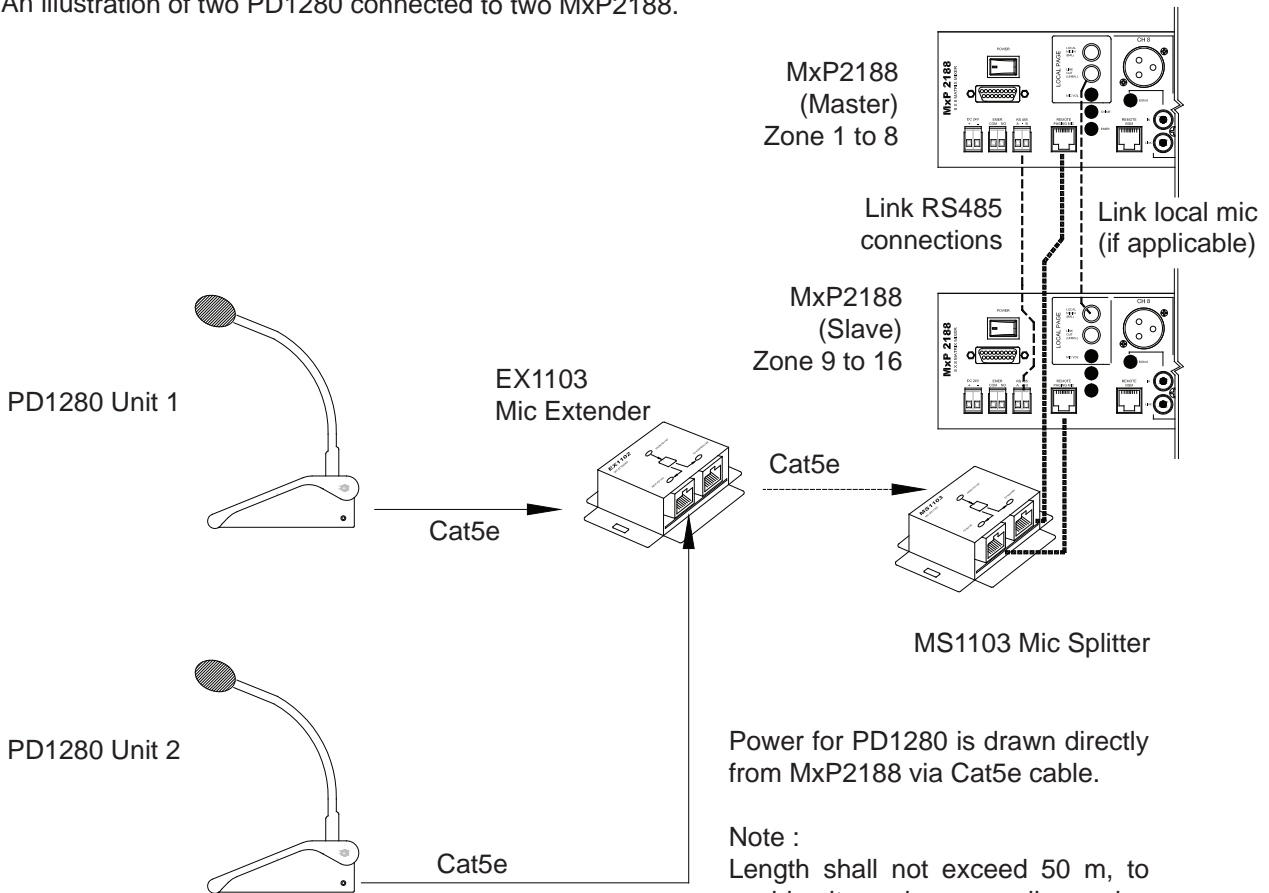Cable Size shall be according to the distance from the
paging mic and the equipment rack.

Since that MxP2188 MatriMix system is capable to cater for larger quantity of zones (8 input to 128 outputs), PD1280 has to be used as the paging mic for the system. More than one PD1280 can be installed.

There is some minor difference when using PD1280 in Matrix environment as compared with the conventional one :

- EX2800 shall be replaced by EX1103 (if more than one PD1280 is installed)
- Direct connection to MxP2188 if only one PD1280 and one Matrix is used.
- Power directly from MxP2188 (length do not exceed 50 m)
- MS1103 to be used if more than one Matrix controller is installed.

An illustration of two PD1280 connected to two MxP2188.

MxP2188
(Master)
Zone 1 to 8

Link RS485
connections

Link local mic
(if applicable)

MxP2188
(Slave)
Zone 9 to 16

PD1280 Unit 1

EX1103
Mic Extender

Cat5e

Cat5e

MS1103 Mic Splitter

PD1280 Unit 2

Cat5e

Power for PD1280 is drawn directly from MxP2188 via Cat5e cable.

Note :
Length shall not exceed 50 m, to avoid voltage drop as well as noise to audio line.

Setting up for the mic shall be similar to conventional setup as illustrated in the next pages.

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Unit Startup

Device Int..

Upon powering, the LCD display shall show 'Device Initialising'.

Remote MIC ⟳

Mic is ready for paging.

Setup Menu

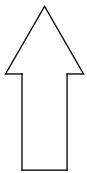| F1	F2	F3
1	2	3
4	5	6
7	8	9
CLR	0	ADD ←

1) Press "0" button momentarily (3 seconds)
   to enter Setup mode

2) Press "Add" button for next

3) Press CLR for Exit setup mode

When using for the first time, a sample setup is required such as:

1) Setting priority level
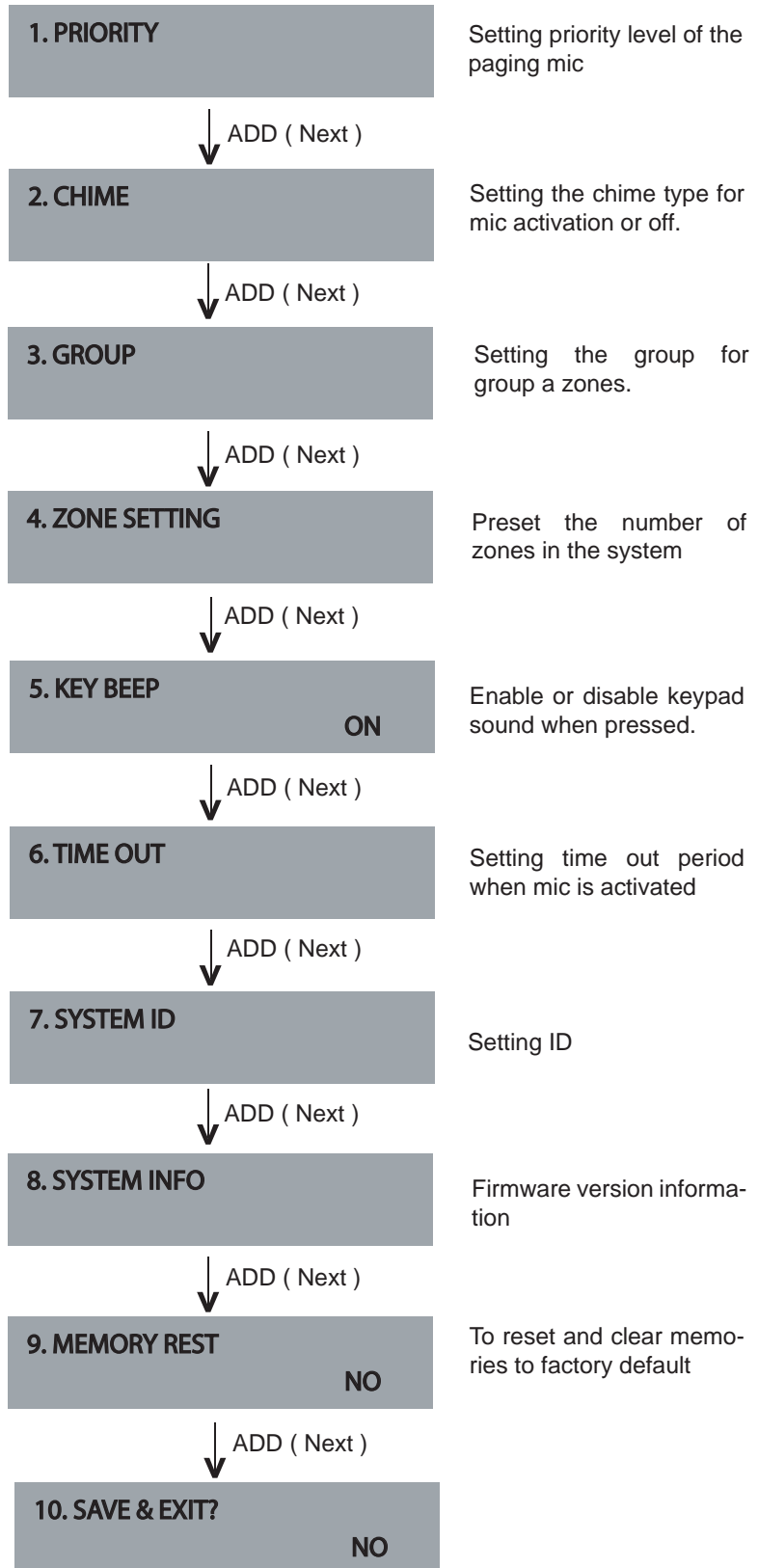2) Optional setting for chime output, grouping, time out etc.

To enter the Setup Main Menu, press '0' momentarily for 3 seconds and the first setup menu - 1. PRIORITY shall appear.

Use ADD (Next) button to scroll down the menu, or CLR (Prev) to view previous screen.
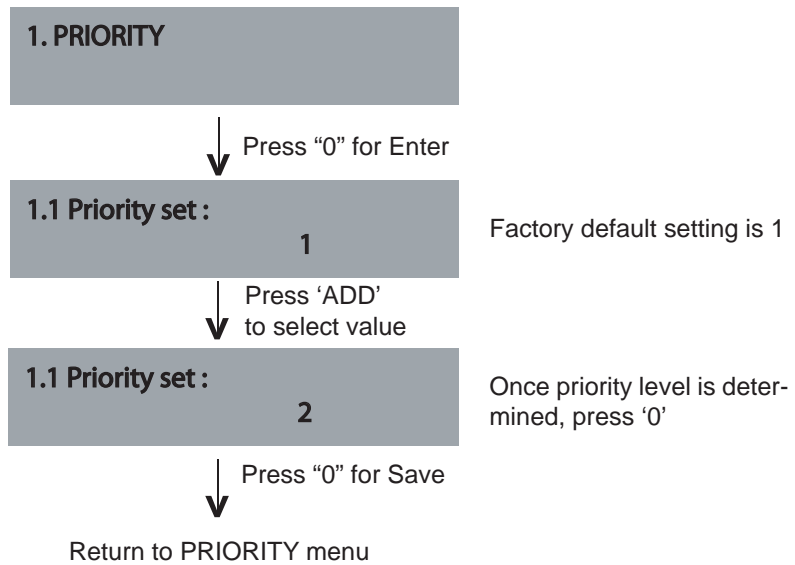
To enter a specific sub menu, press '0' button.

If no entry is made within 15 seconds, the setup menu shall exit automatically and return to ready mode.

1. PRIORITY	Setting priority level of the paging mic

ADD (Next)

2. CHIME	Setting the chime type for mic activation or off.

ADD (Next)

3. GROUP	Setting the group for group a zones.

ADD (Next)

4. ZONE SETTING	Preset the number of zones in the system

ADD (Next)

5. KEY BEEP **ON**	Enable or disable keypad sound when pressed.

ADD (Next)

6. TIME OUT	Setting time out period when mic is activated

ADD (Next)

7. SYSTEM ID	Setting ID

ADD (Next)

8. SYSTEM INFO	Firmware version information

ADD (Next)

9. MEMORY REST **NO**	To reset and clear memories to factory default

ADD (Next)

10. SAVE & EXIT? **NO**	

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1. PRIORITY

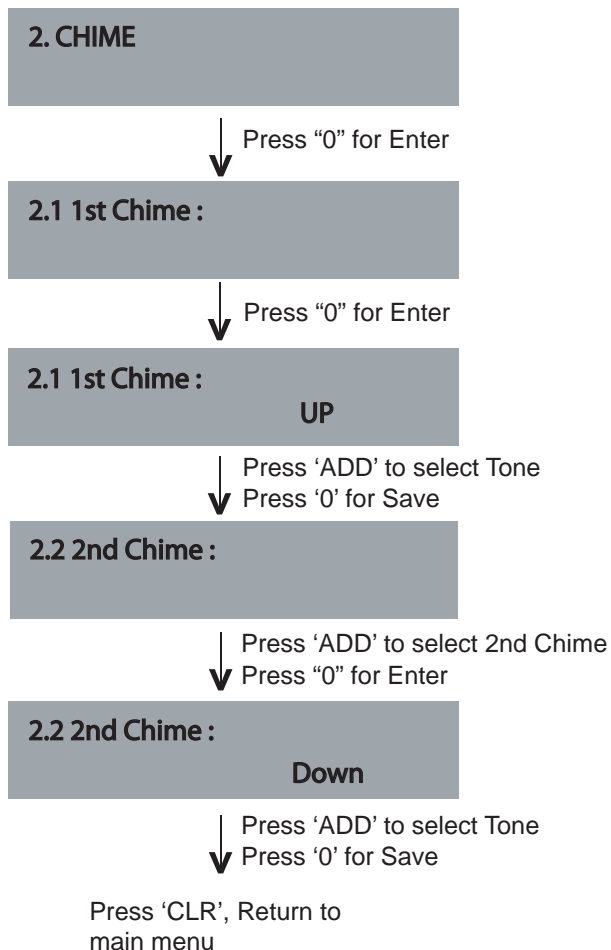Press " 0 " to enter this sub menu from the main directory.

This menu is to set the Priority level of the paging mic. Priority 1 is highest while No Priority is considered normal and is used in single point paging setup. Maximum can set 10 level priority.

1. PRIORITY

Press "0" for Enter

1.1 Priority set :

1

Factory default setting is 1

Press 'ADD'
to select value

1.1 Priority set :

2

Once priority level is determined, press '0'

Press "0" for Save

Return to PRIORITY menu

2. CHIME

Press " 0 " to enter this sub menu from the main directory.

This menu is to set the chime type when the paging mic is on and followed by closing chime.

2. CHIME

Press "0" for Enter

2.1 1st Chime :

Press "0" for Enter

2.1 1st Chime :

UP

Press 'ADD' to select Tone
Press '0' for Save

2.2 2nd Chime :

Press 'ADD' to select 2nd Chime
Press "0" for Enter

2.2 2nd Chime :

Down

Press 'ADD' to select Tone
Press '0' for Save

Press 'CLR', Return to main menu

3. GROUP

Press " 0 " to enter this sub menu from the main directory.

This menu is to create group of zones and group names in the system.

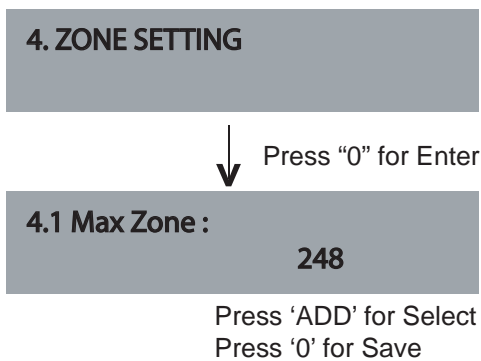We recommend this setting to be done to enable faster response during paging.

> **3. GROUP**

Press "0" for Enter

> **3.1 Group 1**

Press "0" for Enter

> **3.1.1 Member (3)**

Press "0" for Enter

> **3.1.1 Member (3)**
> **1,2,3**

Press "CLR" for Exit

> **3.1.1 Member (3)**

Press "ADD" for Next
Press "0" for Enter

> **3.1.2 Clear (3)**
> **YES**

Press 'ADD' for
select Yes / No

Press 'CLR', Return to Main menu

---
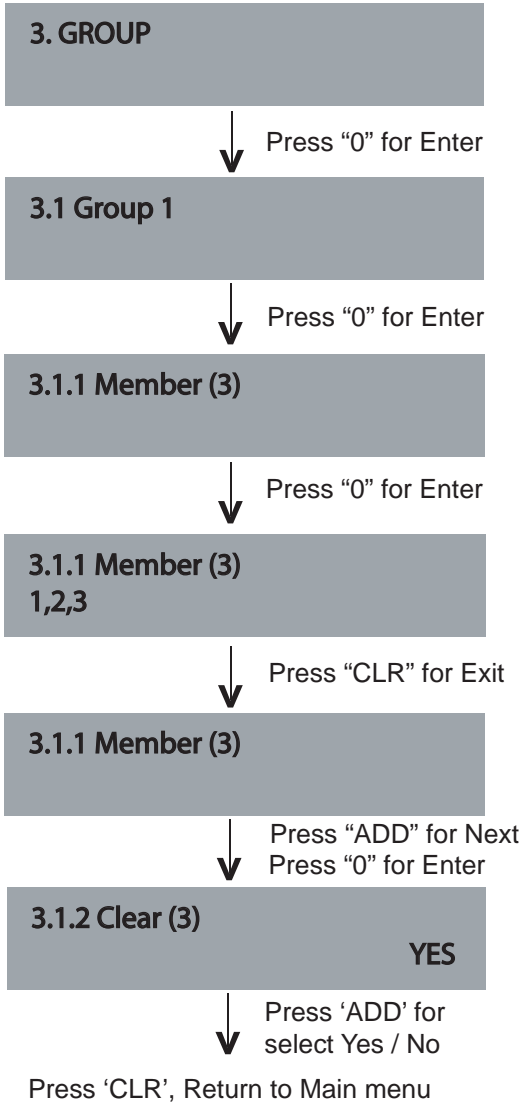
4. ZONE SETTING

Press '0' to enter this sub menu from the main directory.

This is to set the maximum number of zones available in the system.

We recommend this setting to be done to enable faster response during paging.

> **4. ZONE SETTING**

Press "0" for Enter

> **4.1 Max Zone :**
> **248**

Press 'ADD' for Select
Press '0' for Save

Factory default setting is 248

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5. KEY BEEP

Press '0' to enter this sub menu from the main directory.

This is to set the maximum number of zones available in the system.

We recommend this setting to be done to enable faster response during paging.

5. KEY BEEP

Press " 0 " for Enter

5. KEY BEEP

ON

Press " ADD " for Select On / Off
Press " 0" for Save
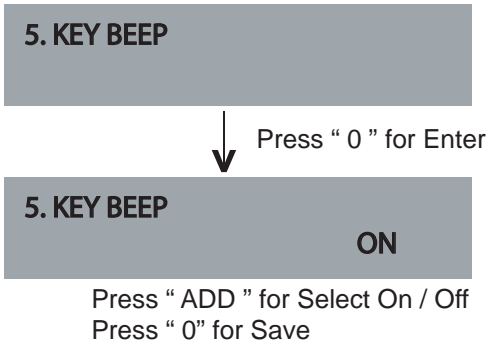
6. TIME OUT

Press '0' to enter this sub menu from the main directory.

This is to set the duration that the mic to be in active mode.
Setting the timeout would prevent the mic being turned on and left idle after an announcement is made.

There are time when the mic is requiredto be active for a longer period of time, such as making a long speech or performing a prayer using the PA system

6. TIME OUT

Press " 0 " for Enter

6.1 Timeout

1 min

Press " ADD " for Select
Press "0" for Save
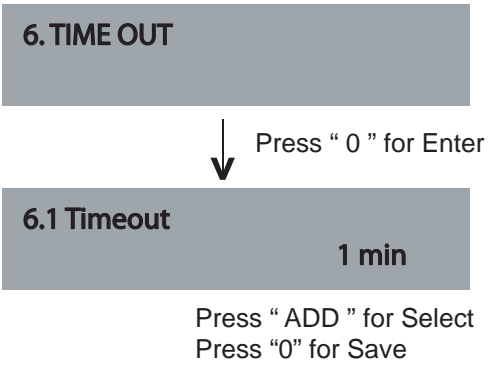
7. SYSTEM ID

Press '0' to enter this sub menu from the main directory.

To setup name & address

7. SYSTEM INFO

Press " 0 " for Enter

7.1 Name:

REM MIC

Press "0" for Enter

7.1 Name:

A
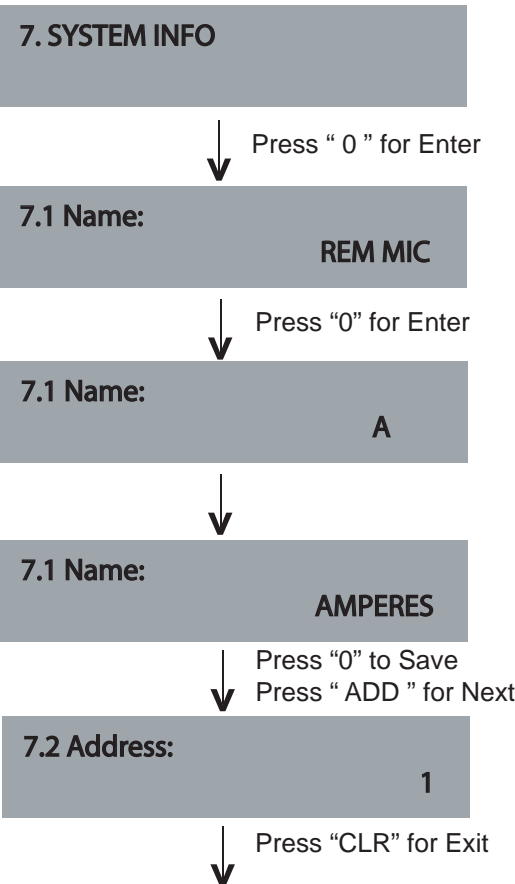
Press " ADD " for Select
Press "0" to Next

7.1 Name:

AMPERES

Press "0" to Save
Press " ADD " for Next

7.2 Address:

1

Press "CLR" for Exit

Return to Main Page
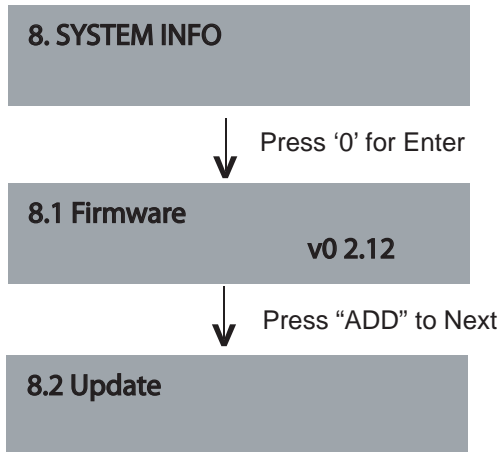
8. SYSTEM INFO

Press '0' to enter this sub menu from the main directory.
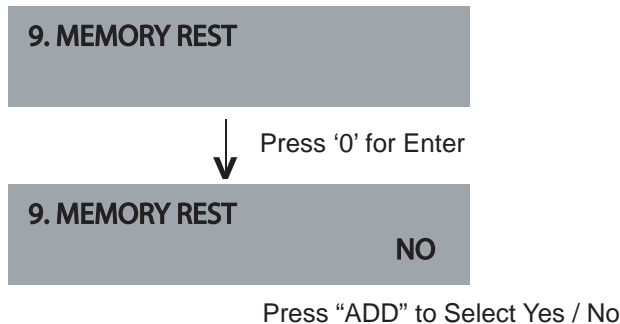
To check the firmware version of the paging mic.

This is an important info when interfacing with external equipment, to check the compatibility as well as when servicing is required.
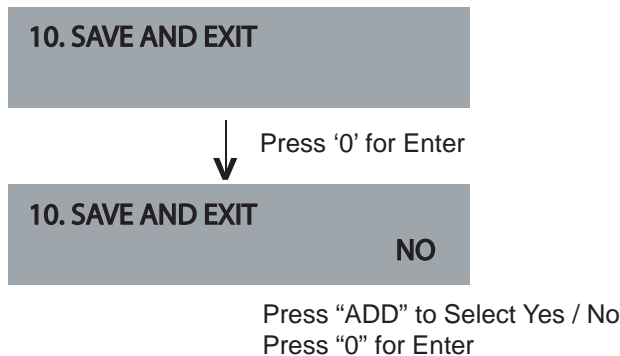
8. SYSTEM INFO

Press '0' for Enter

8.1 Firmware
v0 2.12

Press "ADD" to Next

8.2 Update

9. MEMORY RESET

Press '0' to enter this sub menu from the main directory.

Selecting this menu would revert whatever setup done earlier to factory default setting, such as zone groupings, chime setting, etc.

9. MEMORY REST

Press '0' for Enter

9. MEMORY REST
NO

Press "ADD" to Select Yes / No

10. SAVE AND EXIT

10. SAVE AND EXIT

Press '0' for Enter

10. SAVE AND EXIT
NO

Press "ADD" to Select Yes / No
Press "0" for Enter

Zone Grouping (group setting)

Zone grouping enable easy access to a group of zones for paging. Press button '1' for group (1), press 'ADD' button to add the group.

Example of application :

All lobbies of different floors can be lumped under single group to allow simultaneous paging to all the floors.

Dialing
1,2,3,4,

Press G1 Button momentarily (2 seconds)

Saving
Group 1

To Recall :

Press 'G1' and Press 'Chime + Talk'

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A successful paging can only be achieve if TD6240 is connected, without it would be incomplete installation. Initial setup such as priority level should be set.

PD1280 can be linked to TD6240 for zone decoding, or used in MatriMix system for matrix installations.

Follow the simple steps below to begin paging

1. DIRECT ZONE PAGING

Direct zone paging is when the user select the required zone and press CHIME + TALK button.

A chime shall be broadcasted followed by illuminated ring at the gooseneck mic.

To end paging, simply press the CHIME + TALK button again which would be followed by a downward chime.

Example :

Performing a paging to zone 1 and 15.

Press button "1"

Press button "ADD"

Press button "1" and "5"

Press "CHIME + TALK"

Talk when the LED ring at the mic
is lit and to end,
press "CHIME + TALK"

2. ALL CALL PAGING

To make an ALL CALL paging, simple press the "ALL CALL" button, without having to press "CHIME + TALK " button.

Paging mic is ready for announcement once the LED ring is lit.

To end paging, simply press the "ALL CALL" button again.

In ALL CALL paging, all normal zones shall be activated. This is however, would not energise 24V DC overriding supply to override volume controllers. To enable overriding, we recommend the usage of EP1200A.

Example :

Making call to all normal zones (not overriding external volume controllers).

Press "ALL CALL"

Talk when the LED ring at the mic
is lit and to end,
press "ALL CALL"

	PD1280
Operating voltage	24V DC via EX2800 with local power adaptor
Power Consumption	1.3W
Zone Selection	Numerial keypad with Group, All Call
Switching selection	Sensor touch keypad
Microphone	Gooseneck condenser capsule; unidirectional
Output impedance	600 Ohm
Output level	1.2V balanced line output
Output controls	Chime, mic volume
Data connections	RS485; 19.2 Kbps
Cabling to decoder	2 pair screen; 22 AWG / Cat 5e decoder
Recommended operating distance	500m subject to cable size
Compatible interfacing device	MxP2188, TD6240, TD6080
Chime	4 tones up and 4 tone down
Indicators	Zones, power, audio, data, gooseneck ring LED
Displays	LCD display; white back illumination
Frequency response	100 - 12 kHz
S / N ratio	>65 dB @ 1 KHz
Gooseneck mic length	400 mm
Dimension (W x H x D)	230 x 192 x 65 mm (Excluding Mic)
Weight	Appr. 1.6kg

The communication ports availabe are RS232 and RS485.
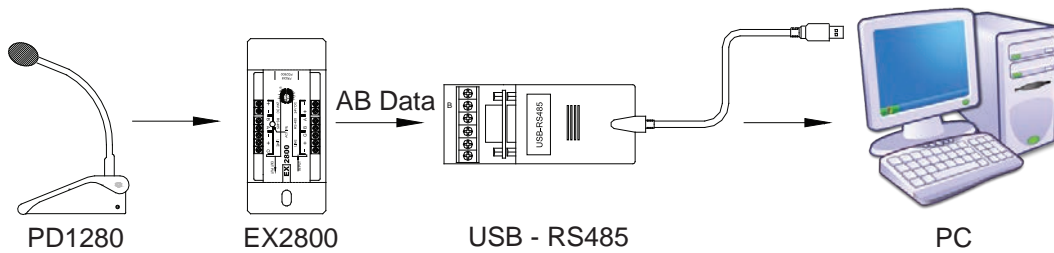RS485 is used for communication with PC for bootloading / firmware upgrades the system.

PD1280   EX2800   USB - RS485   PC

Diagram 1: Connection diagram between PC and PD1280

To perform firmware update:

1. Link the PD1280 to PC as show in the Diagram 1

2. Run bootloader program at your PC and the windows should appear (Diagram 2)

3. At PD1280, press '0' button for select menu - Select menu number 8 - System Info and Select 8.2 - update

4. Press '0' and enter for update

5. Load latest firmware by click 'New Firmware' (Diagram 3)

6. Select "Burn" and the new files would be downloaded to PD1280 (Diagram 4)

7. After completing press 'Restart' and the process of firmware upgrade is completed (Diagram 5)

Diagram 2
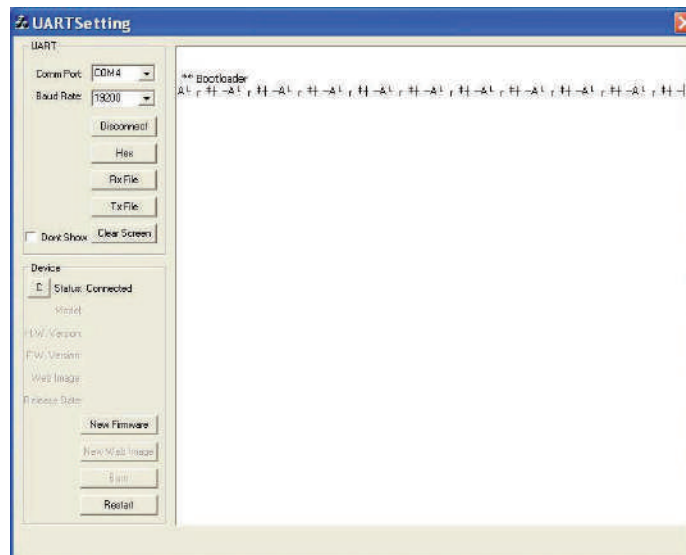
If firmware upgrade is available, follow the steps below after obtaining the new firmware, which is available for download from our website USB to RS485 converter is required which is easily available from IT stores.
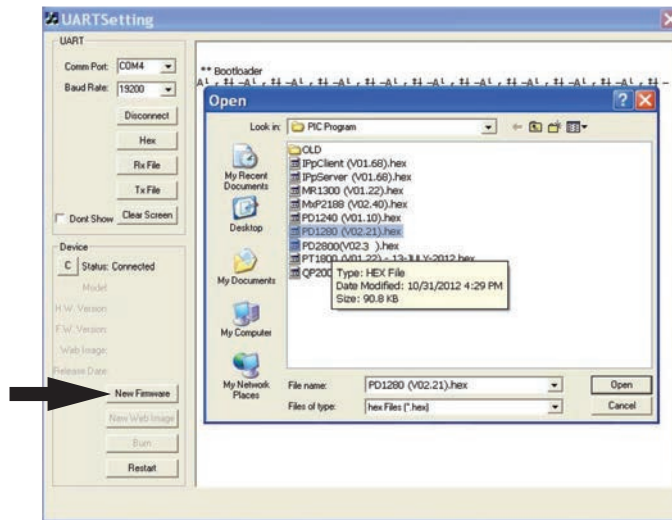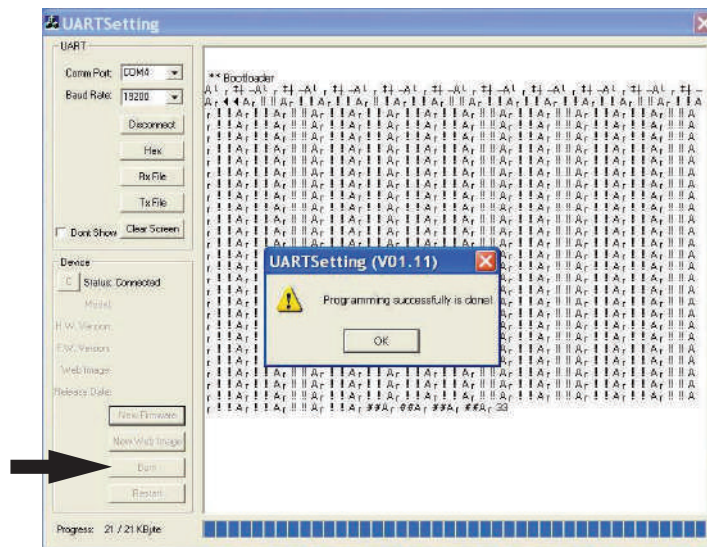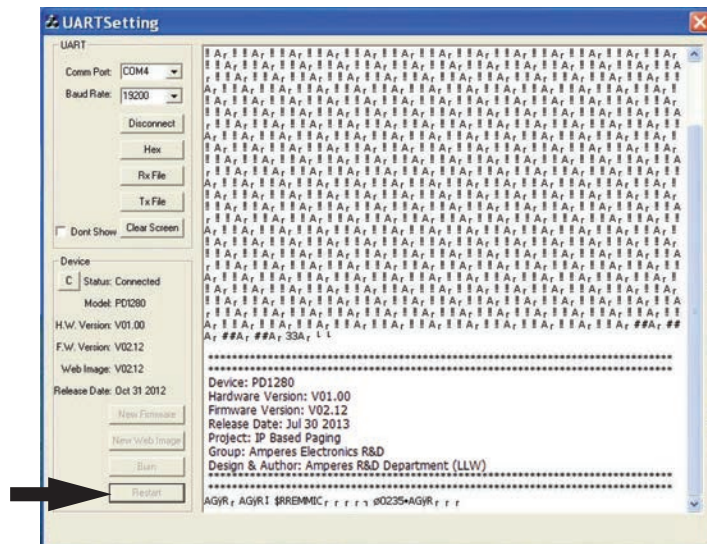
Diagram 3

Diagram 4

Diagram 5

warranty conditions

Only Amperes Electronics Service Centres are allowed to make warranty repairs : a list of Amperes Electronics Service Centres may be asked for by the purchaser or send directly to Amperes Electronics Sdn Bhd at 70 Jalan Industri PBP 3, Tmn Perindustrian Pusat Bandar Puchong, 47100, Puchong, Selangor, Malaysia or its authorized master distributor, Amperes Global Marketing. This warranty is not valid if repairs are performed by unauthorized personnel or service centres.

This warranty covers only repairs and replacement of defective parts ; cost and risks of transportation as well as removal and installation of the product from the main system are for the account of the purchaser. This warranty shall not extend to the replacement of the unit.

This warranty does not cover damages caused by misuse, neglect, accident of the product as well as using the product with power supply voltage other than shown on the product, or any other power supply source / adaptor not recommended by the manufacturer.

This warranty does not cover damages caused by fire, earthquakes, floods. lightning and every cause not directly related to the unit.

This warranty does not include any indemnity in favor of the purchaser or the dealer for the period out of use of the unit; moreover the warranty does not cover any damages which may be caused to people and things when using the product.

This warranty certificate is valid only for the described product, and is not valid if modifications are made on this certificate or on the identification label applied on the product.

This warranty covers all the material and manufacturing defects and is valid for a period of 36 months from the date of purchase or for a longer period in countries where this is stated by a national law. In this case, the extension is valid only in the country where the product is purchased.

Amperes Electronics Sdn Bhd is not obliged to modify previously manufactured products under warranty if the design changes or improvements are made.

disclaimer

Information contained in this manual is subject to change without prior notice and does not represent a commitment on the part of the vendor. AMPERES ELECTRONICS SDN BHD shall not be liable for any loss or damages whatsoever arising from the use of information or any error contained in this manual.

It is recommended that all services and repairs on this product be carried out by AMPERES ELECTRONICS SDN BHD or its authorized service agents.

AMPERES series must only be used for the purpose they were intended by the manufacturer and in conjunction with this operating manual.

AMPERES ELECTRONICS SDN BHD cannot accept any liability whatsoever for any loss or damages caused by service, maintenance or repair by unauthorized personnel, or by use other than that intended by the manufacturer.

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