INSTRUCTION MANUAL

PD2400
24 Zones Digital Desktop Paging Microphone

version 2 / 2010
harmonised protocol

Thank you for choosing another quality product from Amperes Electronics.

Amperes has improved and upgraded this version of PD2400 paging microphone, which can be used and interchanged with other models of PD series paging console in the system. Apart from this, every PD2400 can be used alongside with MxP2188 MatriMix system, thanks to the continuous improvement policy of Amperes.

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.
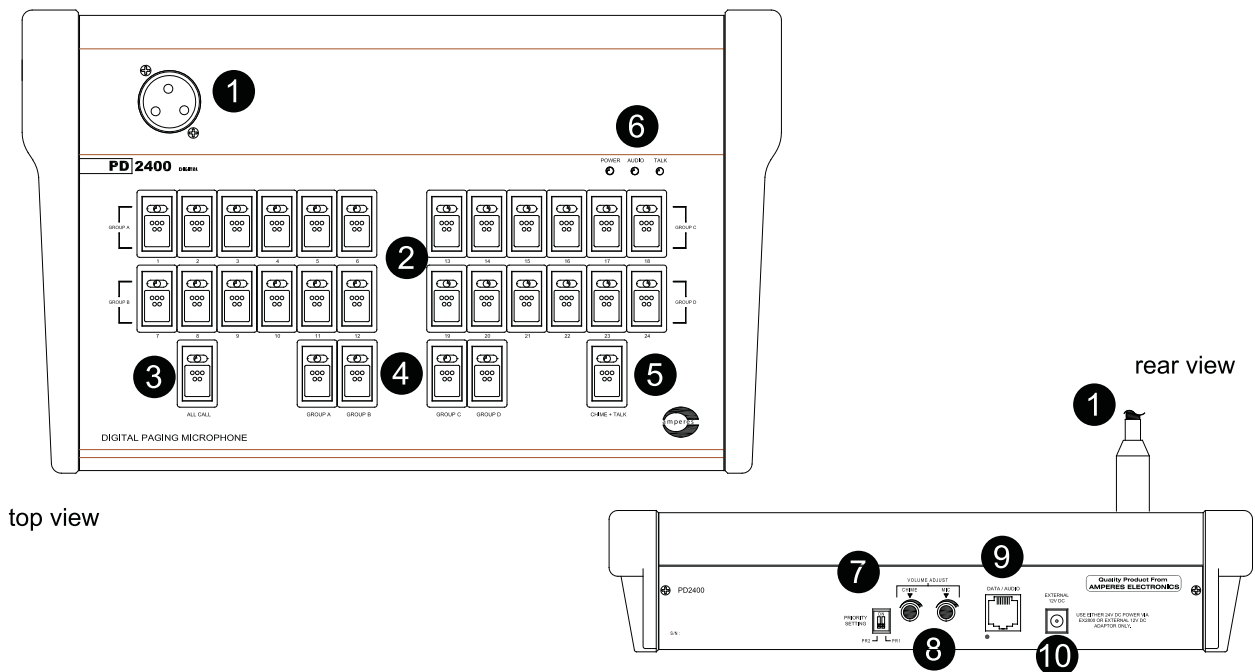
PD2000 series paging microphones has been upgraded with new harmonised protocols and different connection method as compared to the earlier versions. This version can be identified by its serial number, with begins with 240010060001.   It is only compatible with TD6240 decoders with serial numbers begin with 62401006001.

With the harmonised firmware, PD2400 can be used together with PD2800, or interchanged in system upgrades. In MatriMix system, either PD2400 or PD2800 can be employed for larger setup.

In system with TD6240 environment, priority of each paging mic can be set and identified during operation. However in MatriMix system, priority paging has been eliminated, and paging is done on first come first serve basis.

Parts Identification

top view

rear view

1. GOOSENECK MIC

The detachable mic with illuminated LED ring when the unit is activated.

2. ZONE TRIGGERING SWITCH

Individual zone selection switch to trigger the zone selector

3. ALL CALL SWITCH

Pressing ALL CALL switch shall activate all zones. Please note that this shall not activate the Emergency 24V Relay at the zone selector to override external volume controllers. To activate the 24V DC output, please refer to the Zone Selector manual.

4. GROUP SWITCHES

Each group represents 6 zones. This is a convenient way of selecting zones according to groups.

5. CHIME / TALK SWITCH

Pressing this switch shall send signal for zones activated and followed by 4 tone upward chime. Blinking LED indicates that the chime is being transmitted and still LED is to alert the user that the microphone is ready for announcement.

Pressing momentary the switch shall deactivate the console in which a 4 tone downward chime shall be broadcasted before shutting down the zone selection.

6. DATA / AUDIO / POWER INDICATORS

Data LED shall lit whenever the console is activated, whereas the audio for microphone sound pick up. Power LED for DC input to the console.

7. PRIORITY SETTING

Setting is required whenever multi point paging is installed in a system. Select the priority level of each console, either as high or low. PR1 has higher priority over PR2.

8. VOLUME ADJUST

Chime output level as well as mic sensitivity level can be adjusted accordingly to the requirements.

9. DATA / AUDIO OUTPUT / POWER CONNECTOR

Data and audio outputs are connected to EX2800 External Connection Unit via RJ45 connector. Power can be fed to the unit either from EX2800 (24V DC) or via the power jack (12V DC). Use either one power input source only.
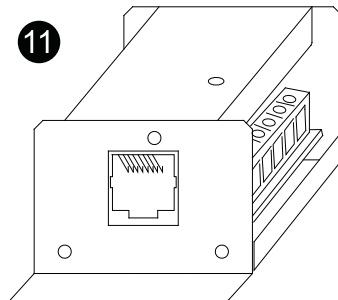
10. 12V POWER INPUT JACK

The unit can be operated either using 24V or 12V, whichever convenient. However, only one source of supply is required to power the paging console.

11. EX2800 EXTERNAL CONNECTION UNIT

Output from PD2800 shall be connected to EX2800 using Cat5e cable. Power to the unit can be drawn from EX2800 which is supplied by ac/dc 24V adaptor.
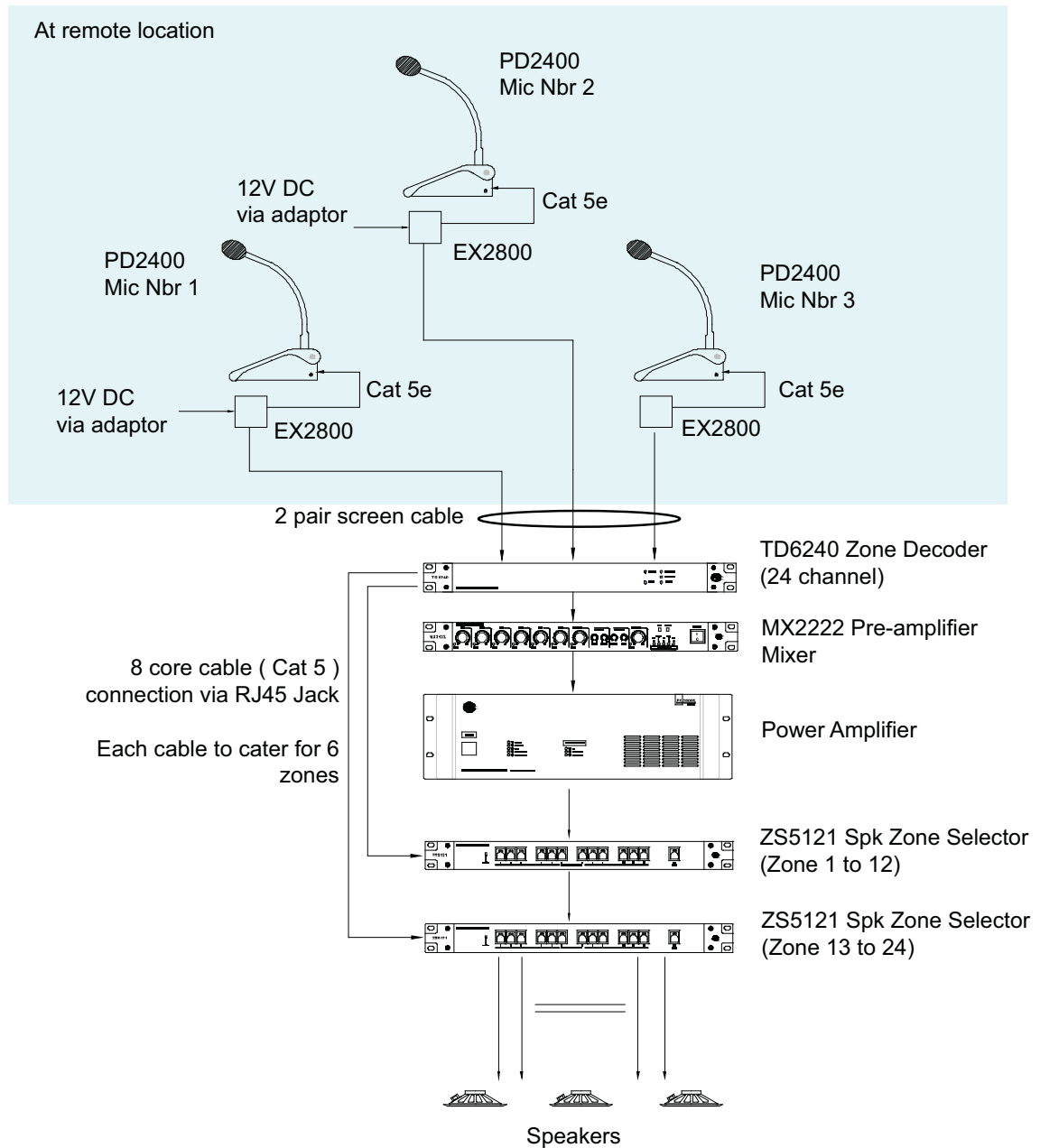
Please refer to Connecting The Unit in the following page.

EX2800 External Connection Unit

At remote location

PD2400
Mic Nbr 2

12V DC
via adaptor

Cat 5e

EX2800

PD2400
Mic Nbr 1

PD2400
Mic Nbr 3

12V DC
via adaptor

Cat 5e

Cat 5e

EX2800

EX2800

2 pair screen cable

TD6240 Zone Decoder
(24 channel)

MX2222 Pre-amplifier
Mixer

8 core cable (Cat 5)
connection via RJ45 Jack

Each cable to cater for 6
zones

Power Amplifier

ZS5121 Spk Zone Selector
(Zone 1 to 12)

ZS5121 Spk Zone Selector
(Zone 13 to 24)

Speakers

The above configuration shows a typical system with 24 speaker zones, using 3 units of PD2400 with a single TD6240 (24 zone decoder) and 2 ZS5121.
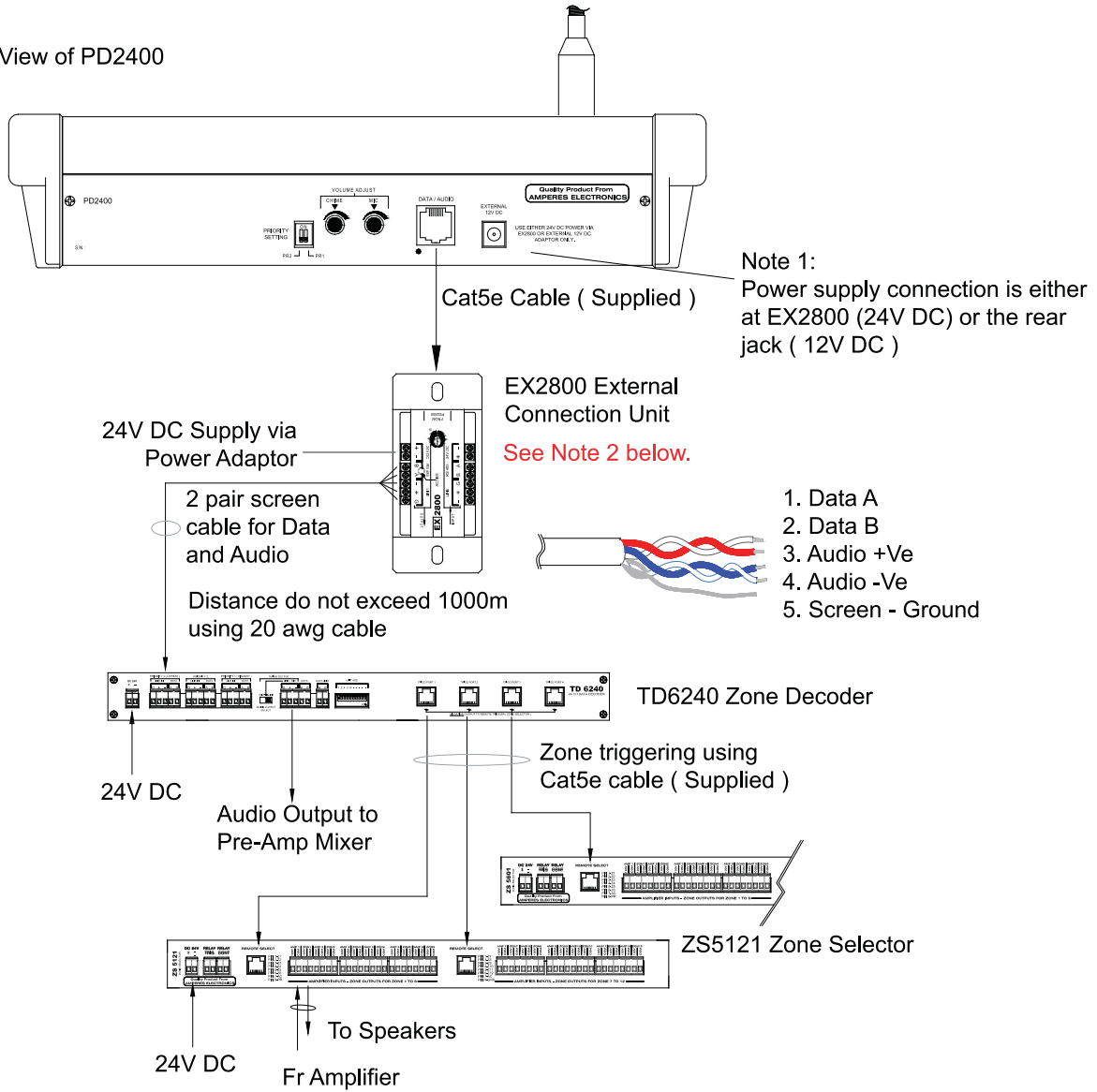
Other made of zone selectors of Amperes ZS5602 can be used to replaced ZS5121

Priority setting is done at each individual mic, connected to TD6240 remote mic inputs. Note that connection to the TD6240 can be made freely to the connectors unlike the previous version.
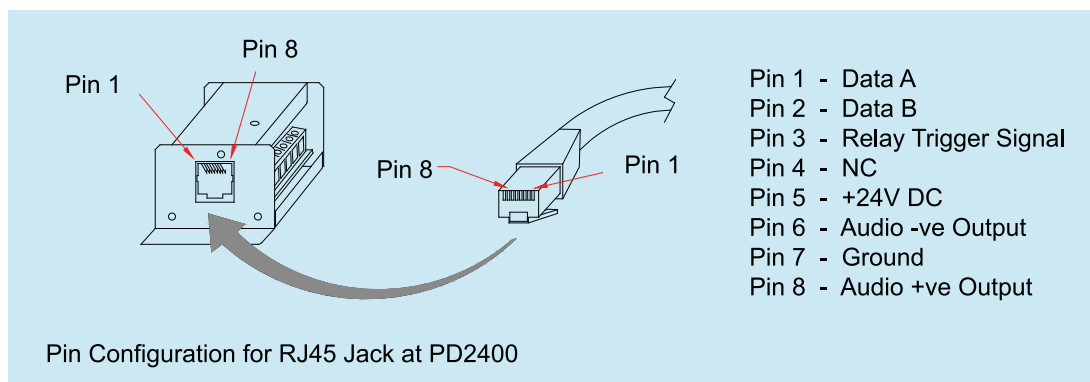
PD2400 can also be used with MatriMix system. In this case EX1102 shall be used instead of EX2800 as the external connection unit.

Rear View of PD2400
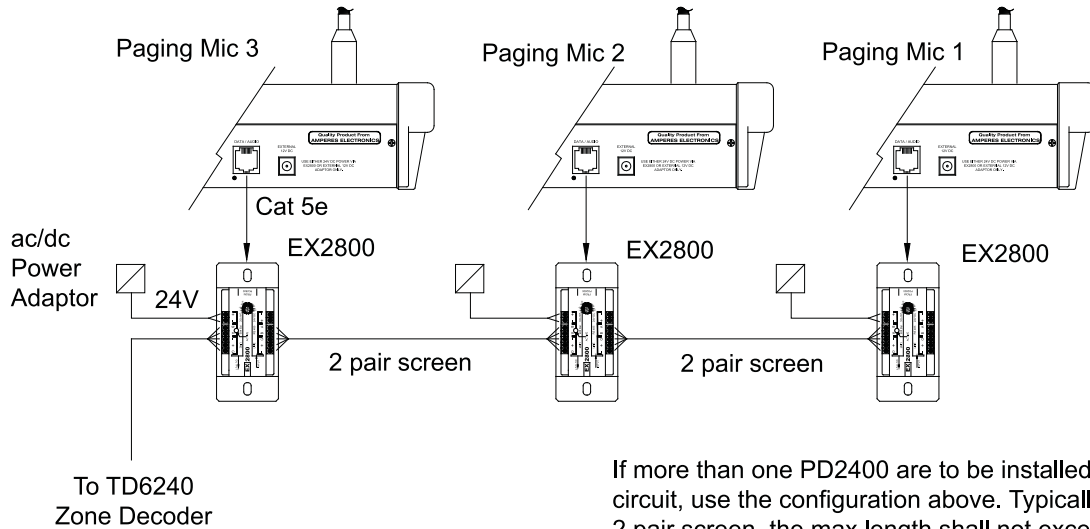

Cat5e Cable (Supplied)

Note 1:
Power supply connection is either at EX2800 (24V DC) or the rear jack (12V DC)

EX2800 External Connection Unit
See Note 2 below.

24V DC Supply via Power Adaptor

2 pair screen cable for Data and Audio

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

Distance do not exceed 1000m using 20 awg cable

TD6240 Zone Decoder

24V DC

Audio Output to Pre-Amp Mixer

Zone triggering using Cat5e cable (Supplied)

ZS5601 / ZS5121 Zone Selector

To Speakers

24V DC

Fr Amplifier

Note 2 :
More than 1 PD2400 can be installed in a single circuit. In this case, loop the data / audio cable via the EX2800 terminals accordingly.

Pin 8

Pin 1

Pin 8

Pin 1

Pin 1 - Data A
Pin 2 - Data B
Pin 3 - Relay Trigger Signal
Pin 4 - NC
Pin 5 - +24V DC
Pin 6 - Audio -ve Output
Pin 7 - Ground
Pin 8 - Audio +ve Output

Pin Configuration for RJ45 Jack at PD2400

Connecting PD2400 In Same Circuit

Paging Mic 3   Paging Mic 2   Paging Mic 1

Cat 5e

ac/dc
Power
Adaptor   EX2800   EX2800   EX2800
        24V

        2 pair screen   2 pair screen

To TD6240
Zone Decoder

If more than one PD2400 are to be installed in the same circuit, use the configuration above. Typically for 22 awg 2 pair screen, the max length shall not exceed 500m.

BGM Override When In Paging Mode

Unlike the previous version, overriding the BGM at zone selector shall be done automatically when paging mic is activated. No extra or particular connection is required. Please use the latest TD6240 and ZS5121 / 5601 for this feature. Check compatibility by the Serial Nbr - 512110060001 / 560110060001 / 624010060001 / 560210060001 and above.
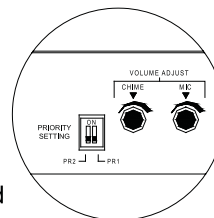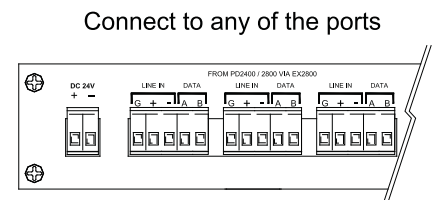
No PR connection shall be required.

Priority Setting

Priority setting of each mic is done at the rear DIP switch of the unit.

00 - Lowest Priority
01 - Highest Priority
11 - Medium Priority

Any mic connection port at the TD6240 can be used regardless of the priority status of the paging console.

Connect to any of the ports

Priority Setting

All Call Paging with 24V Override

Pressing ALL CALL from PD2400 shall activate all the zones at the zone selectors. If any volume controllers are installed in the particular zone and is switched off, this feature shall not override the VC. This is to avoid unnecessary interruption to the areas concerned, especially Emergency or Privacy Zones, such as Boardroom, Prayer Hall, Function Hall, etc.

To override the volume controllers during emergency, use EP1200 installed at the rack. Please refer to ZS manual to make necessary connection.

Select the zone for paging	Select the individual zone for paging or as group or ALL CALL, LEDs at the switches shall lit accordingly.
Press Chime + Talk button to page	A 4 tone upward chime shall be broadcasted to the zones selected.
	This shall be followed by activation of gooseneck mic, indicated by LED ring near the mic capsule. The console is now ready for paging.
Press Chime + Talk button to end	A 4 tone downward chime shall be broadcasted to the selected zones.
	LED ring turned off and the console is deactivated.

Technical Data

System	Condenser microphone, cardioid.
Output impedance	600 Ohm
Output level	1.1 V, Balanced
Output level controls	Chime and mic
Chime	4 tone (Up and Down)
Frequency response	100 - 12 k Hz
Signal to Noise Ratio	60 dB
Indicators	Data send
	Audio send
	Power
	Gooseneck mic LED upon activation
Power supply	24V DC via D9 connector / external 12V DC supply via adaptor
Power consumption	170 mA
Data out	RS485 ; 19.2 kB/s
Data connection	D9 connector
Operating distance (controls)	Up to 1000 meters
Max line out distance	Up to 500 metres. (22 awg)
Dimensions	174(w) x 178(d) x 62(h) excluding microphone
Gooseneck mic length	300 mm
Weight	900 gms

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.

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