

# E&M Module for AP1800, AP2330, AP2340



***AddPac***

**AddPac Technology**

2010, Sales and Marketing

# Contents




- AP1800, AP2330, AP2340, etc N1 Platform
- VoIP Modules for N1 Platform
- AP-N1-E&M4 Module Features





# AP1800, AP2330, AP2340 N1 Platform

# AP1800, AP2330, AP2340 N1 Platform

	AP1800	AP2330	AP2340
Model			
Module Slot	2 Module Slot	3 Module Slots	4 Module Slots
Media Gateway Service Module	Digital E1/T1, 8-Port FXS, 8-Port FXO, <b>4-Port E&amp;M</b>	8-Port FXS, 8-Port FXO, <b>4-Port E&amp;M</b>	8-Port FXS, 8-Port FXO, <b>4-Port E&amp;M</b>
Power Supply	Internal Power Module (AC)	Internal Power Module (AC)	Internal Power Module (AC)
Power Type	Built-In	Built-In	Built-In



# VoIP Modules for N1 Platform

# N1 Platform VoIP Modules

High-end  
DSP

## AP-N1-FXS8

8-Port FXS Voice Processing Module (8 x RJ11)



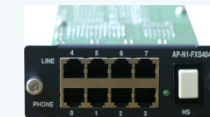
## AP-N1-FXO8

8-Port FXO Voice Processing Module (8 x RJ11)



## AP-N1-FXO4S4

4-Port FXO and 4-Port FXS Voice Processing Module (8 x RJ11)



## AP-N1-E1T1

1-Port VoIP Digital E1/T1 Interface Module(1xRJ45)



## AP-N1-2E1T1

2-Port VoIP Digital E1/T1 Interface Module(1xRJ45)



# N1 Platform VoIP Modules

High-end  
DSP

AP1800 VoIP Gateway

Back Side



4-Port E&M Interface (4 x RJ45)

8-Port FXS Module (8 x RJ11)



# 4-Port E&M Module for N1 Platform



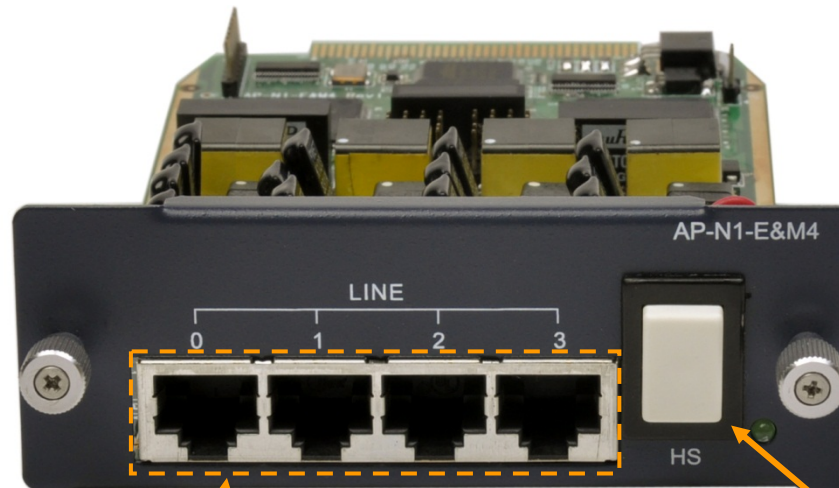
# Contents

- Hardware Specification
- 2-Wire E&M Model Pin Assignment
- 4-Wire E&M Model Pin Assignment
- E&M Type I Interface
- E&M Type II Interface
- E&M Type III Interface
- E&M Type IV Interface
- E&M Type Selection(Jumper Selection)
  - E&M 2-Wire Mode
  - E&M 4-Wire Mode

# Hardware Specification

High-end  
**DSP**

## Hardware Module Specification

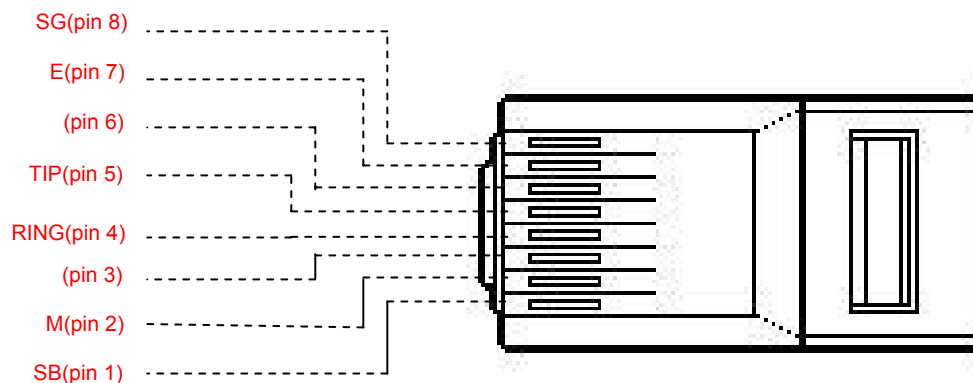


4-Port E&M Interface (4 x RJ45)

Hot-Swap Push Button

# E&M 2 Wire Model

## RJ45 Pin Assignment



**E** (Ear or Earth) - Signal wire from trunking (CO) side to signaling side.

**M** (Mouth or Magnet) - Signal wire from signaling side to trunking (CO) side.

**SG** (Signal Ground) - Used on E&M Types II, III, IV (Type IV is not supported on AddPac IP-PBX/gateways).

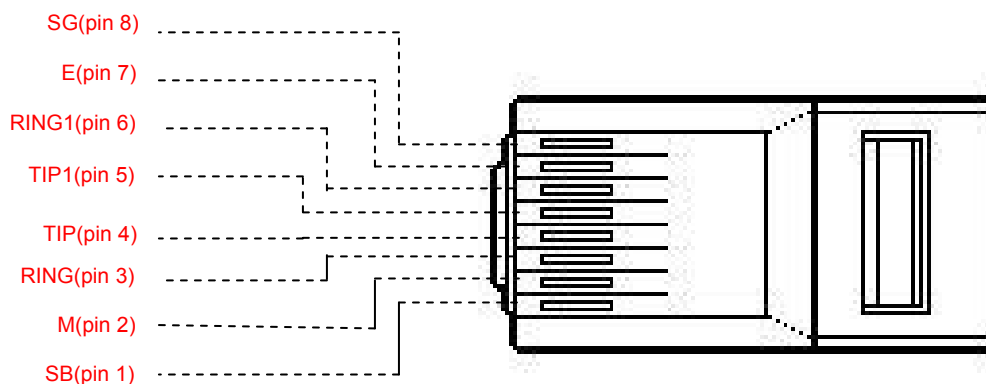
**SB** (Signal Battery) - Used on E&M Types II, III, IV (Type IV is not supported on AddPac IP-PBX/gateways)

**T / R** (Tip/Ring) - T / R leads carry audio between the signaling unit and the trunking circuit. On a 2-wire audio operation circuit, this pair carries the full-duplex audio path.

**T1/R1** (Tip-1/Ring-1) - Used on 4-wire audio operation circuits only. The 4-wire implementation provides separate paths for receiving and sending audio signals.

# E&M 4 Wire Model

## RJ45 Pin Assignment



**E** (Ear or Earth) - Signal wire from trunking (CO) side to signaling side.

**M** (Mouth or Magnet) - Signal wire from signaling side to trunking (CO) side.

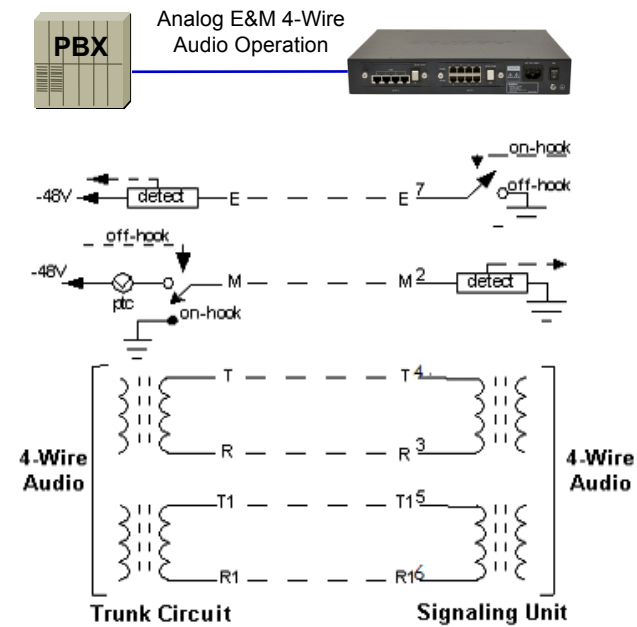
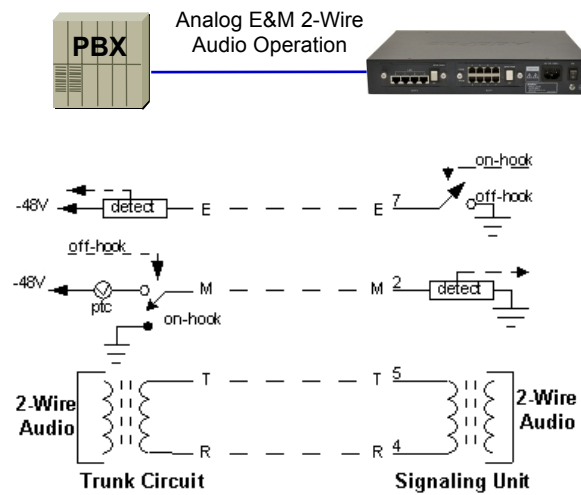
**SG** (Signal Ground) - Used on E&M Types II, III, IV (Type IV is not supported on AddPac IP-PBX/gateways).

**SB** (Signal Battery) - Used on E&M Types II, III, IV (Type IV is not supported on AddPac IP-PBX/gateways)

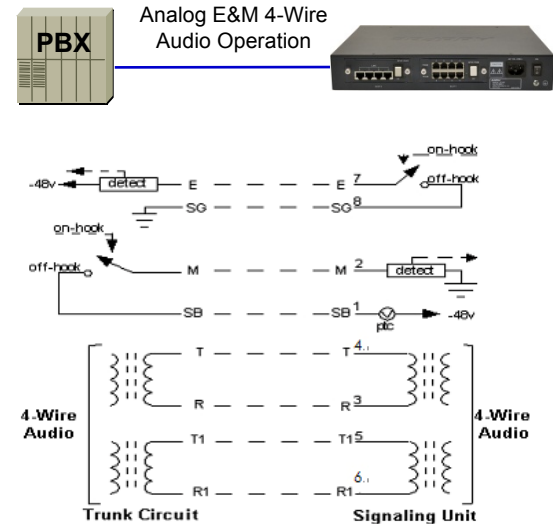
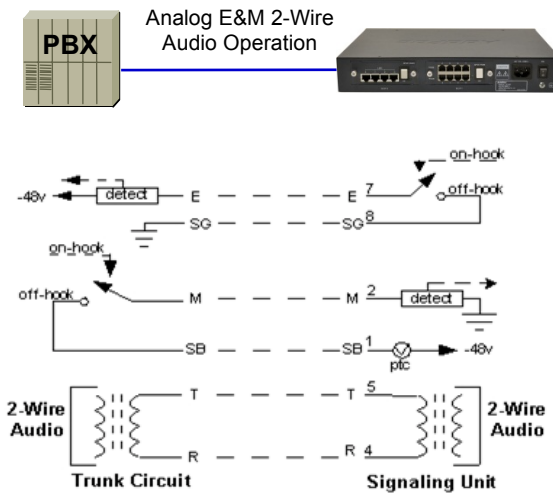
**T / R** (Tip/Ring) - T / R leads carry audio between the signaling unit and the trunking circuit. On a 2-wire audio operation circuit, this pair carries the full-duplex audio path.

**T1/R1** (Tip-1/Ring-1) - Used on 4-wire audio operation circuits only. The 4-wire implementation provides separate paths for receiving and sending audio signals.

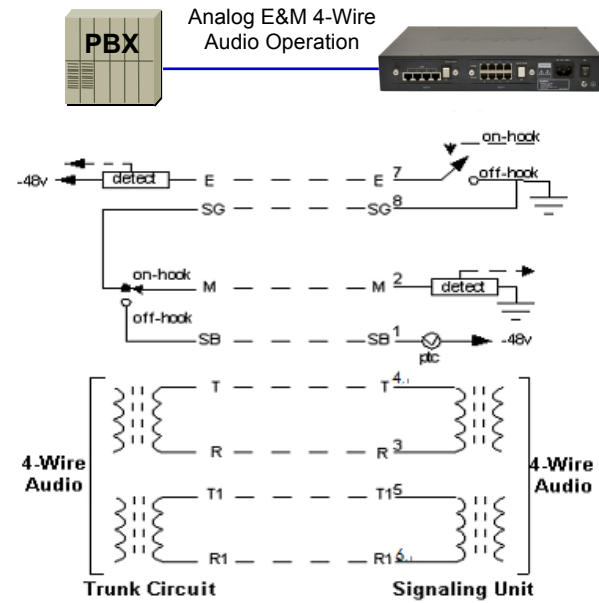
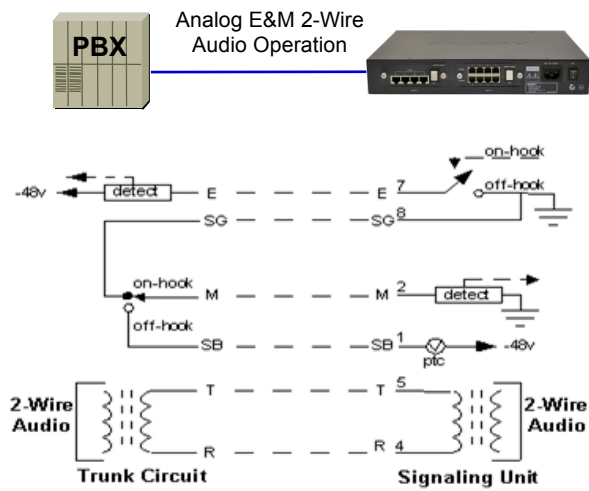
# E&M Type I Interface



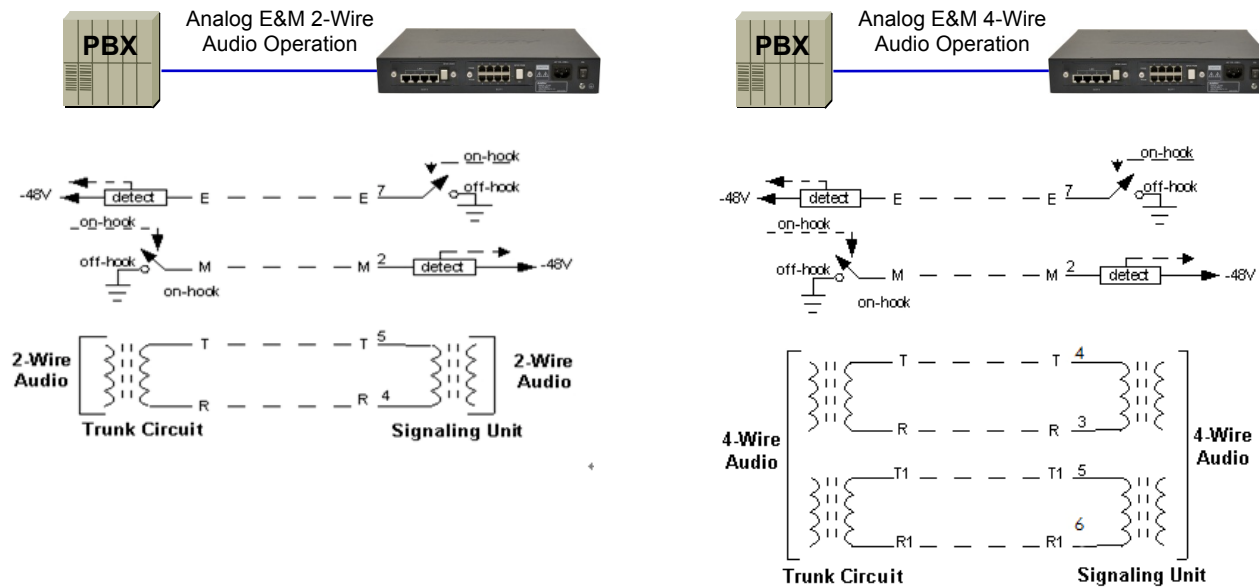
# E&M Type II Interface



# E&M Type III Interface



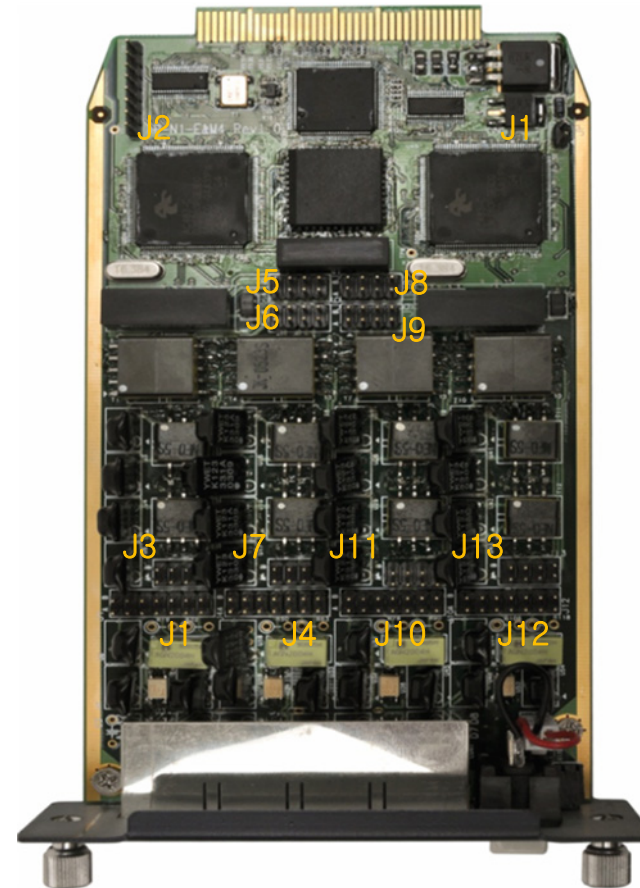
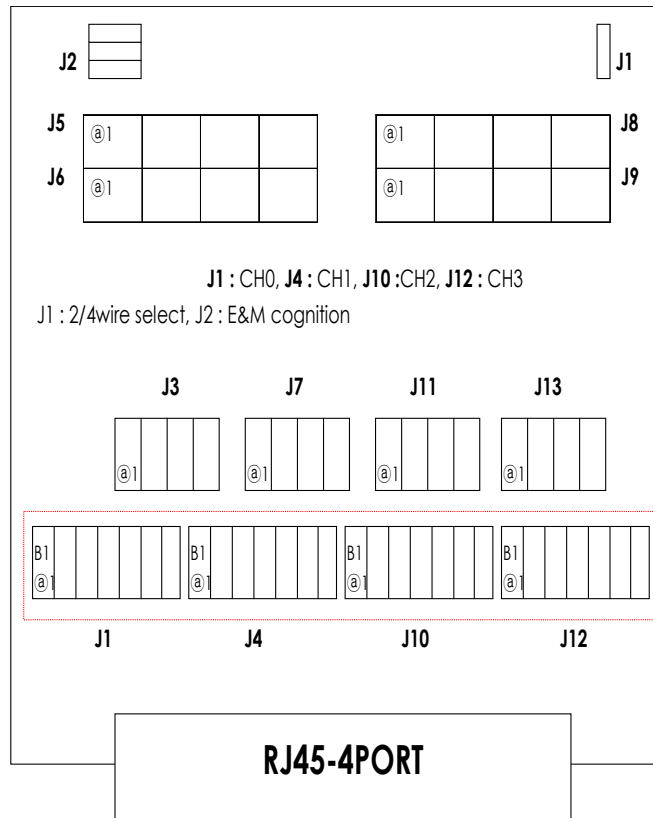
# E&M Type V Interface





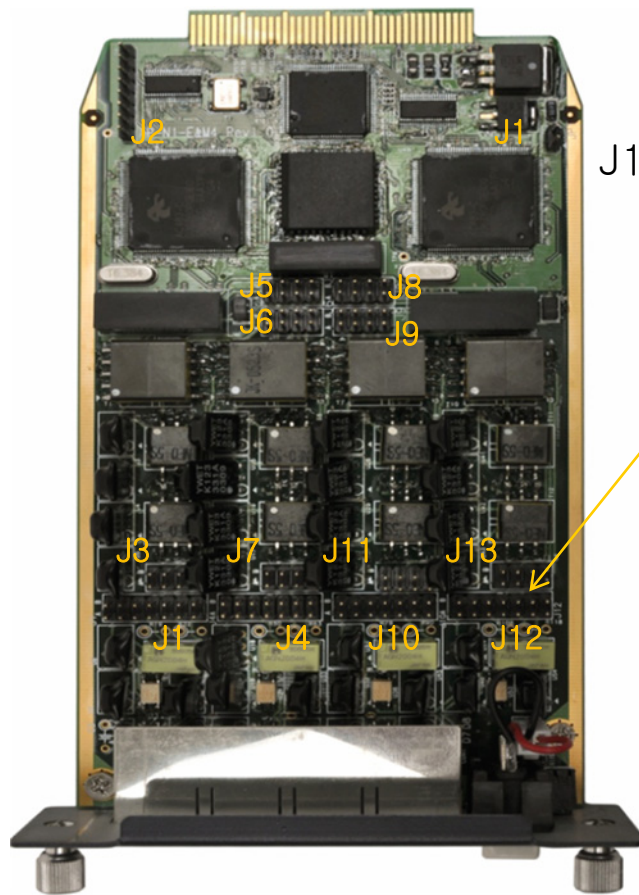
# E&M Type Selection

## E&M Card Jumper Layout



# E&M Type Selection

E&M Card Type 1,2,3,5 Selection using Jumper J1,J4,J10,J12



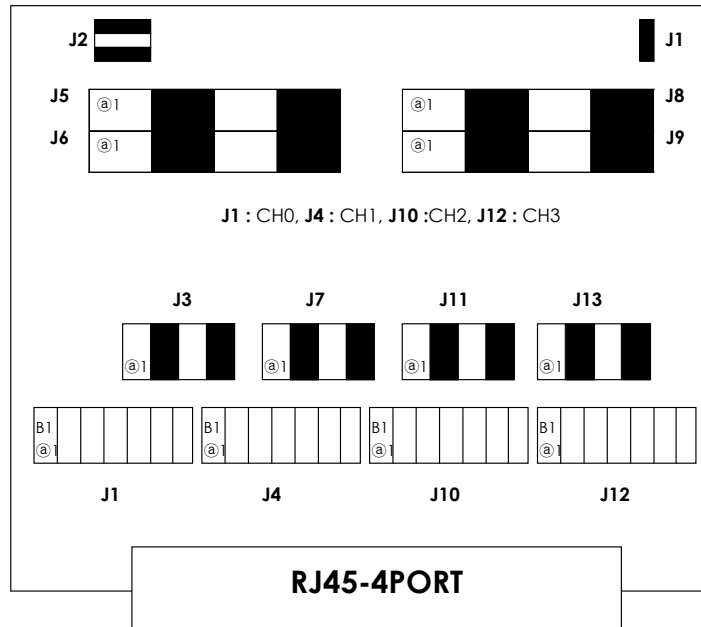
J1(CH#0),J4(CH#1),J10(CH#2),J12(CH#3)

B1		■	■		
(a)1					
B1	■			■	
(a)1					
B1		■		■	
(a)1					
B1			■		
(a)1					
B1		■	■		
(a)1					

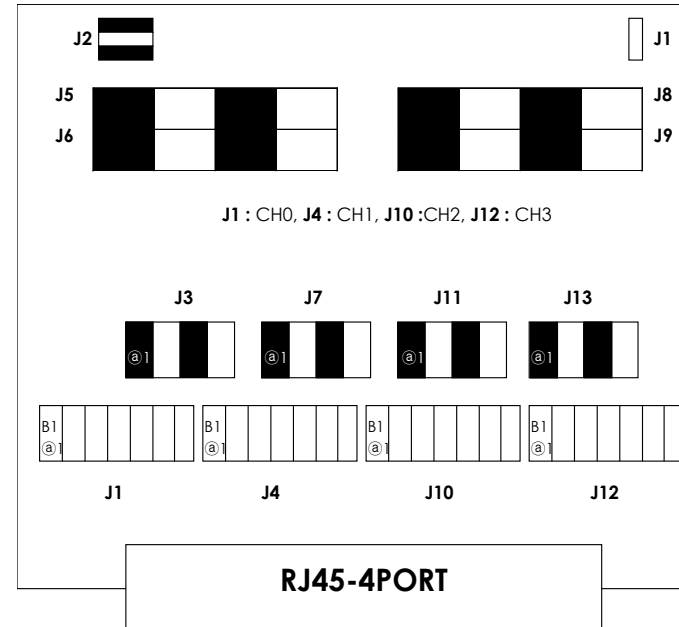
- E&M Type 1 Setting Example
- E&M Type 2 Setting Example
- E&M Type 3 Setting Example
- E&M Type 4 Setting Example
- E&M Type 5 Setting Example

# E&M Type Selection

## E&M 2-Wire Mode



## E&M 4-Wire Mode



J3, J5 : CH0 2Wire, 4Wire Selection  
 J7, J6 : CH1 2Wire, 4Wire Selection  
 J11, J9 : CH2 2Wire, 4Wire Selection  
 J13, J8 : CH3 2Wire, 4Wire Selection



\* 2Wire Setting : A2, B2 Connection  
 A4, B4 Connection



\* 4Wire Setting : A1, B1 Connection  
 A3, B3 Connection



# Thank you!

**AddPac Technology Co., Ltd.**  
Sales and Marketing

Phone +82.2.568.3848 (KOREA)

FAX +82.2.568.3847 (KOREA)

E-mail [sales@addpac.com](mailto:sales@addpac.com)