

E&M Guide

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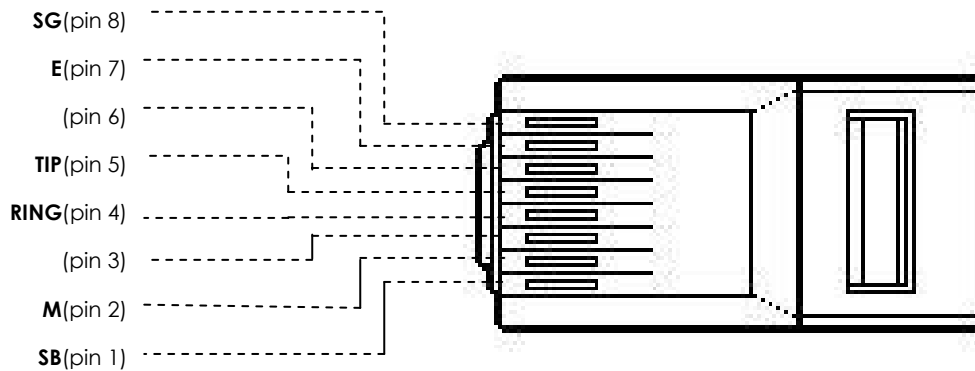
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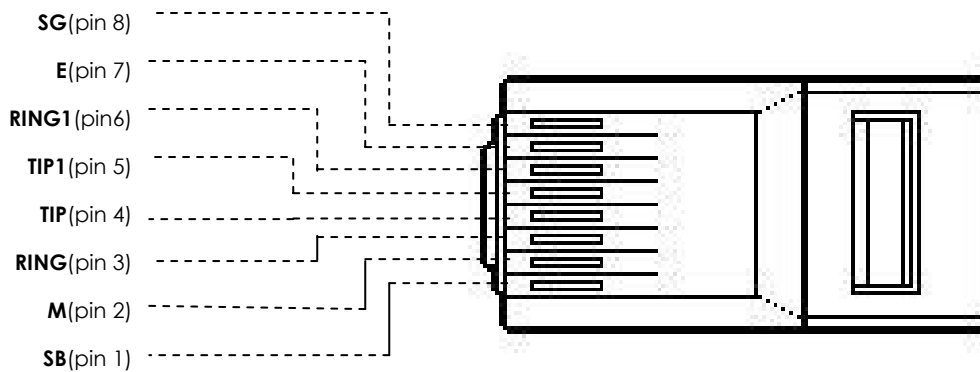
E&M

Pin Assignment of RJ45 Connector by E&M 2Wire Model



※ RJ-45 pin color is User Define

Pin Assignment of RJ45 Connector by E&M 4Wire Model



※ RJ-45 pin color is User Define

Interface Signal Description

- **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 Cisco router/ gateways).
- **SB** (Signal Battery) - Used on E&M Types II, III, IV (Type IV is not supported on Cisco

router/ 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.

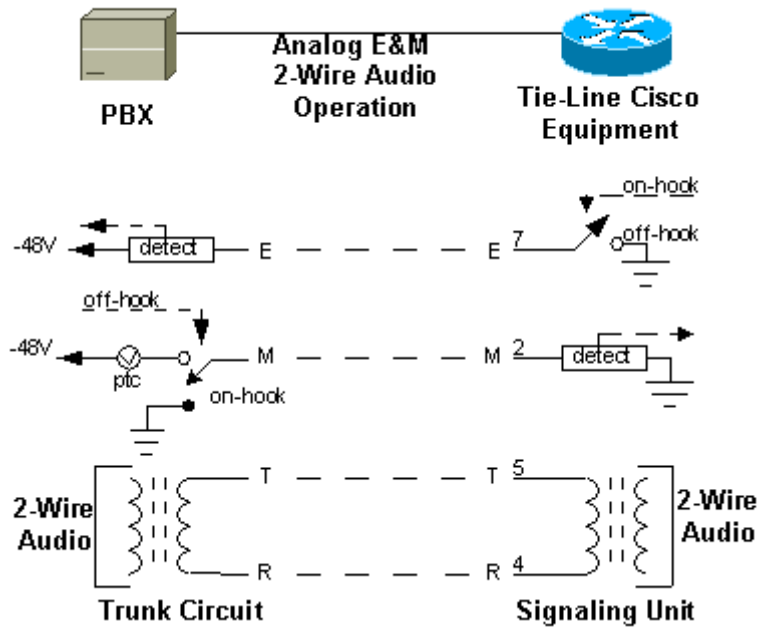
Reference Information

<http://www.cisco.com/warp/public/788/signalling/21.html>

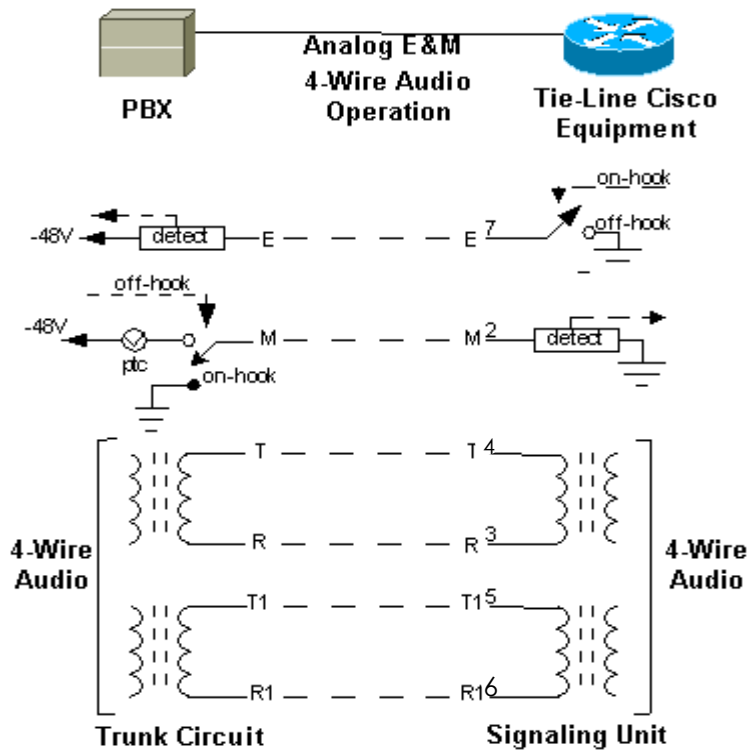
<http://www.looptelecom.com/13EM.pdf>

E&M Type I Interface Model

E&M Type I Interface Model

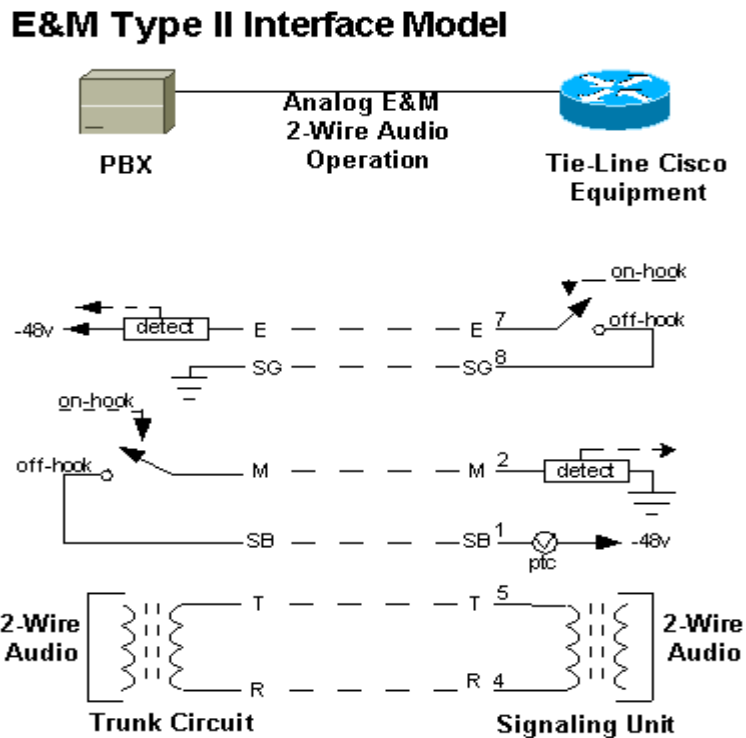


[Figure 1. E&M Type I Interface 2Wire Model]

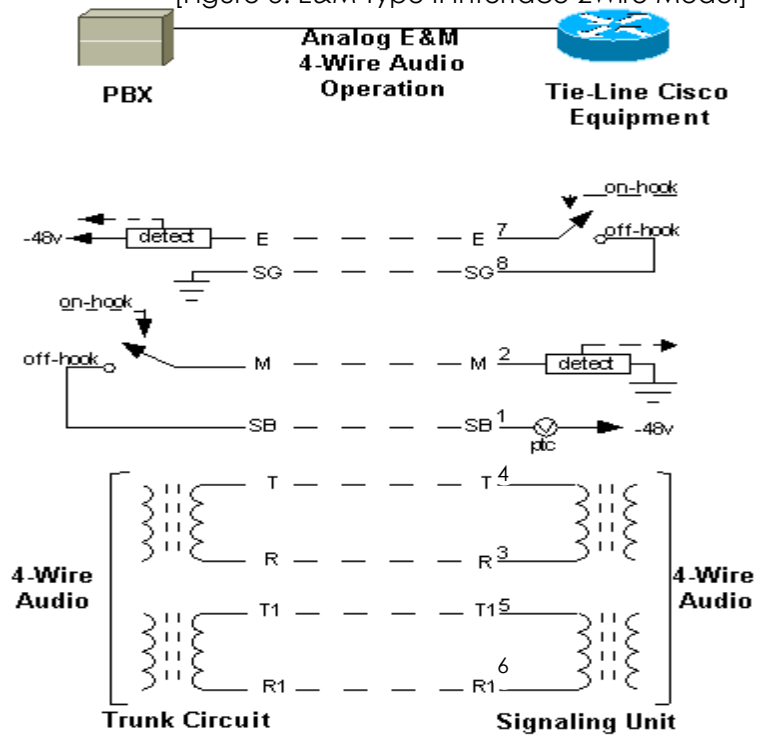


[Figure 2. E&M Type I Interface 4wire Model]

E&M Type II Interface Model



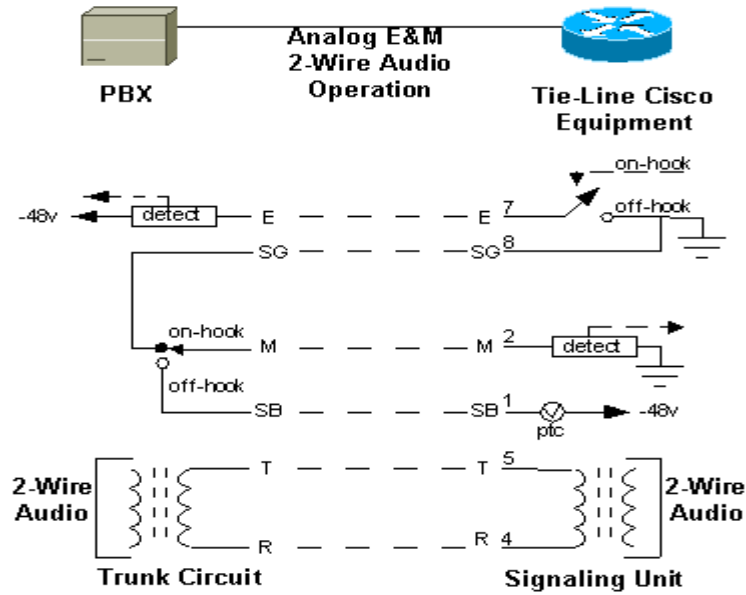
[Figure 3. E&M Type II Interface 2Wire Model]



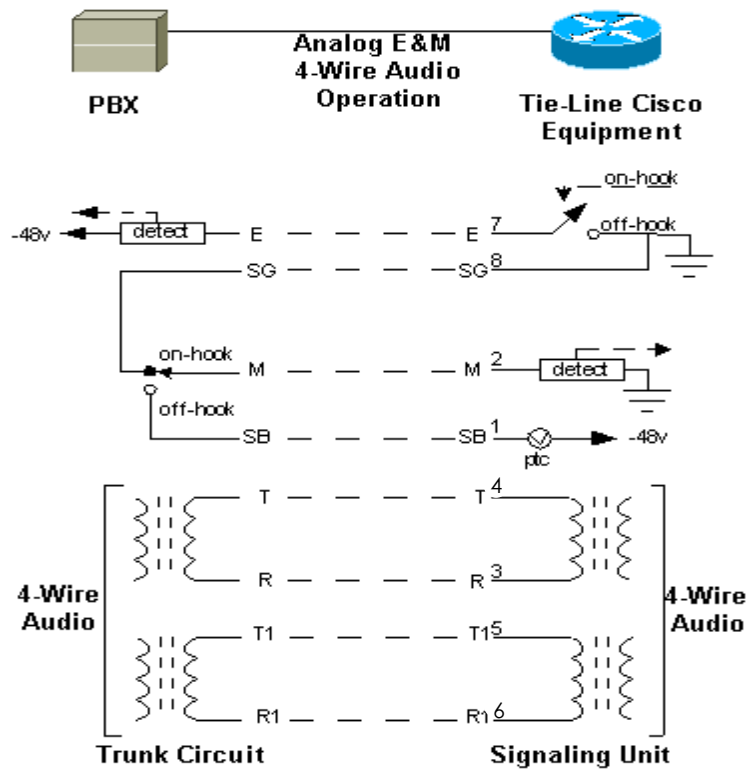
[Figure 4. E&M Type I Interface Model]

E&M Type III Interface Model

E&M Type III Interface Model



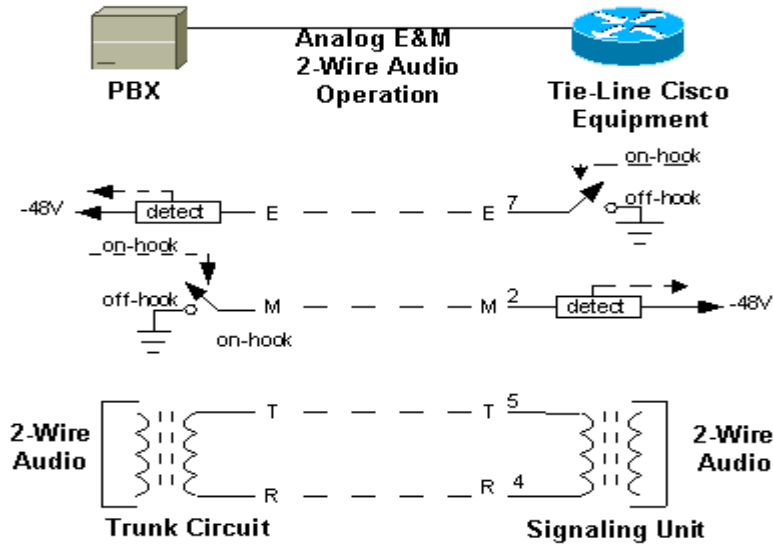
[Figure 5. E&M Type III Interface 2Wire Model]



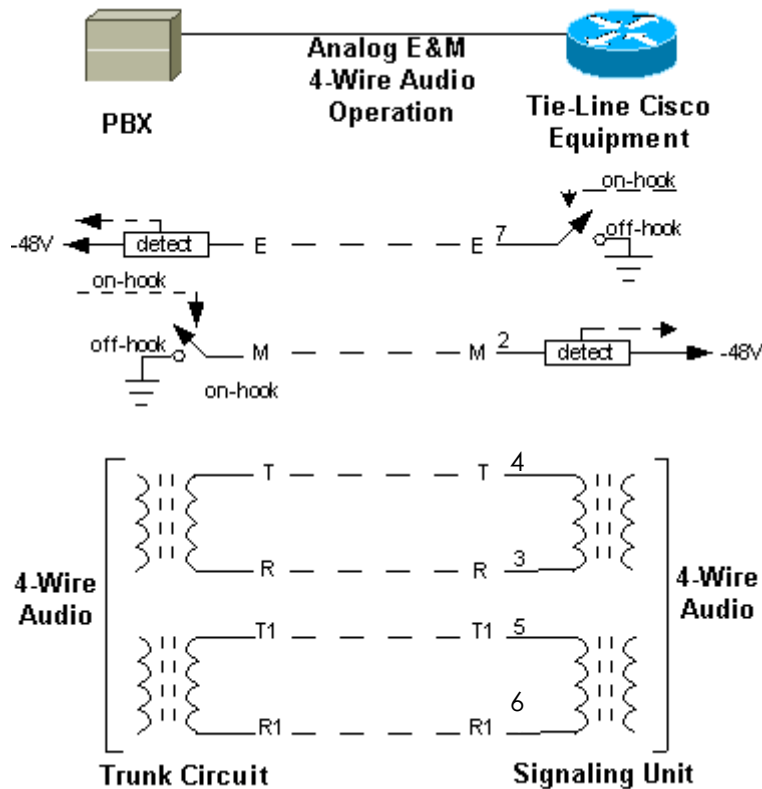
[Figure 6. E&M Type III Interface 4Wire Model]

E&M Type V Interface Model

E&M Type V Interface Model

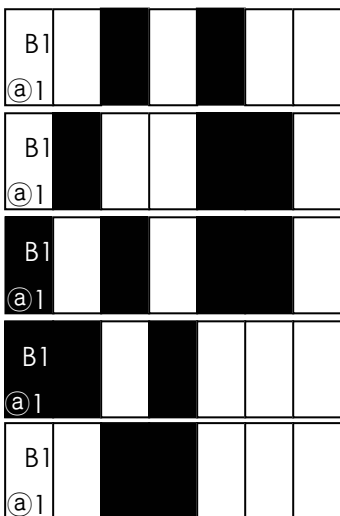
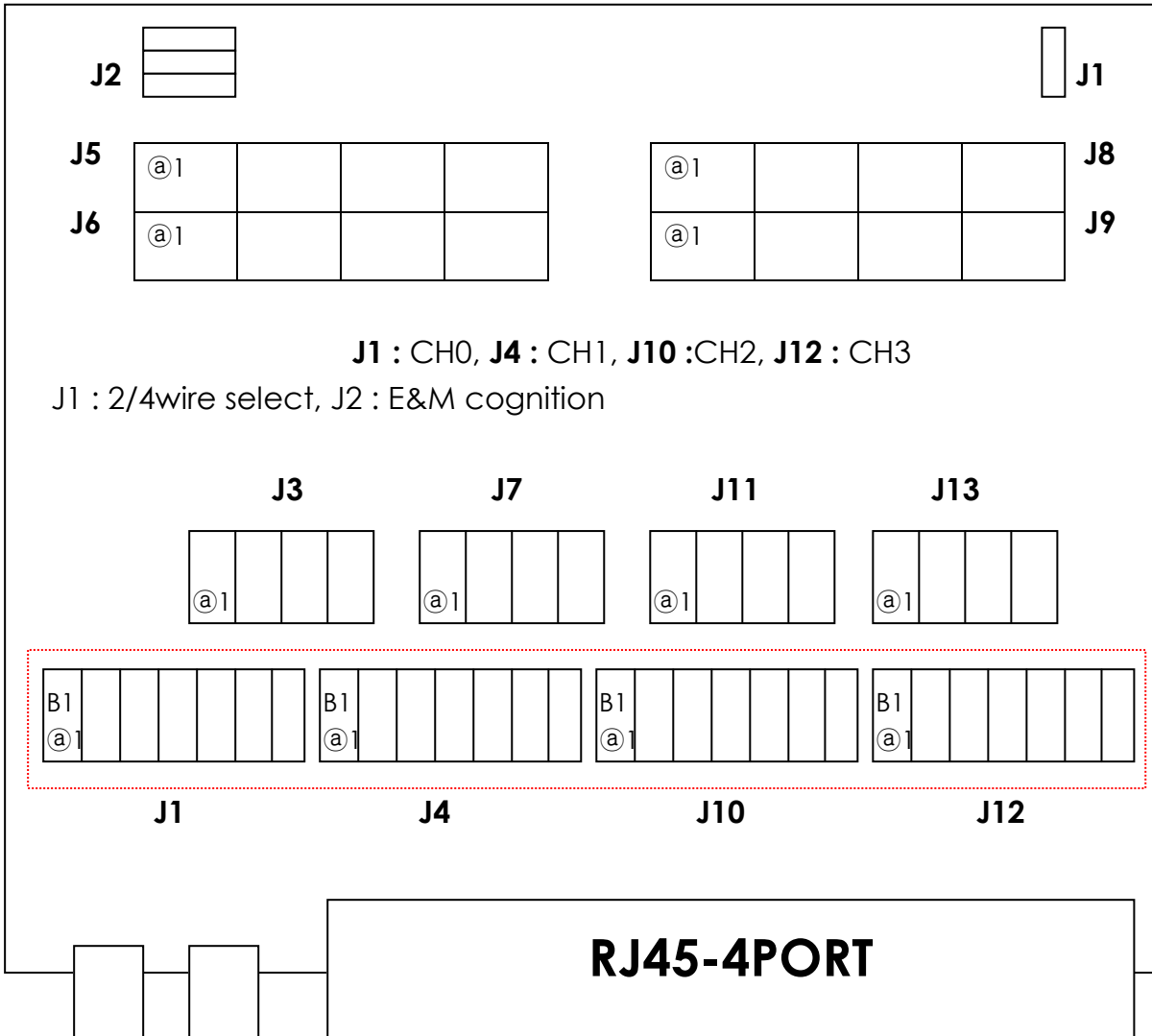


[Figure 7. E&M Type V Interface 2Wire Model]



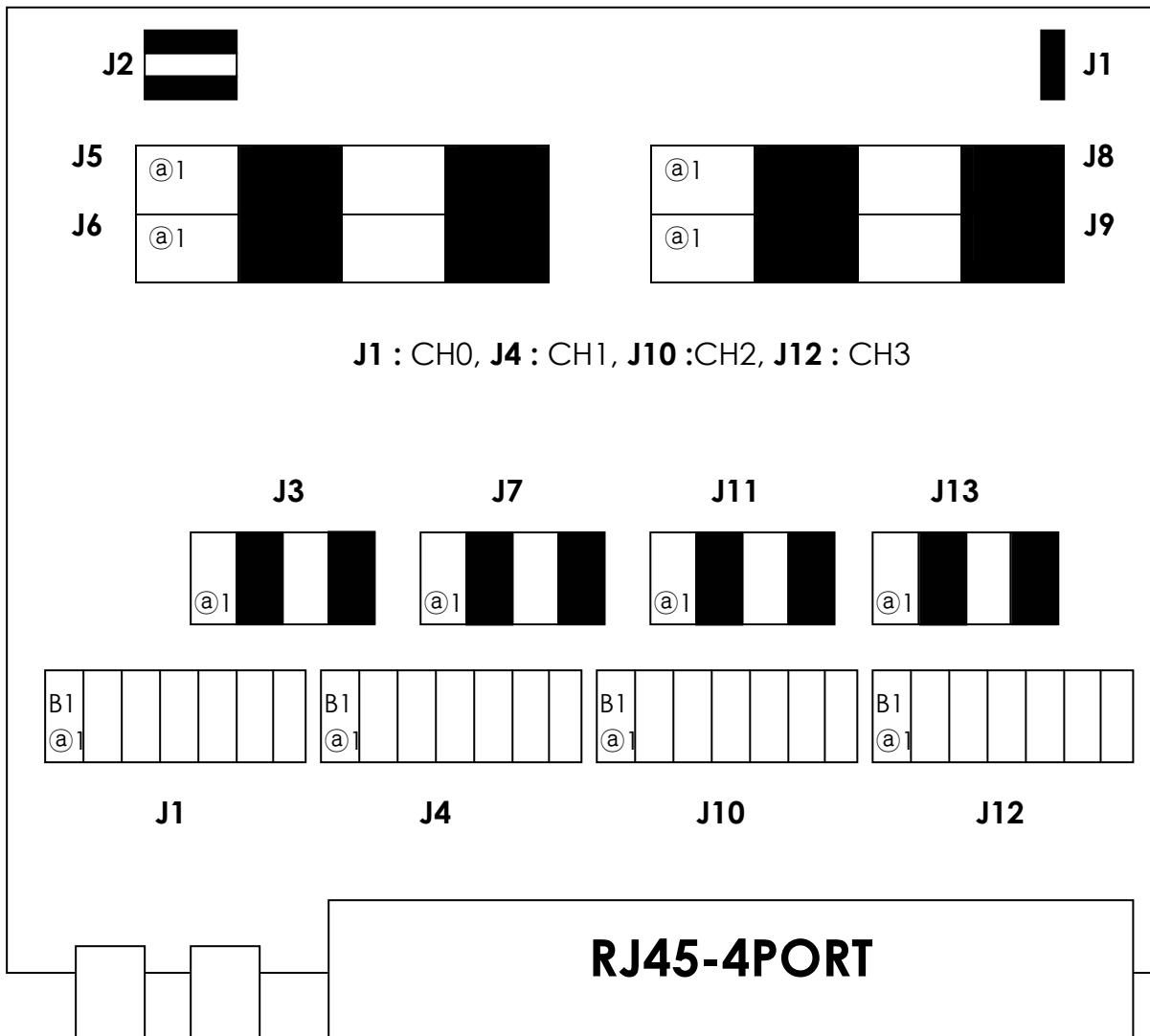
[Figure 8. E&M Type V Interface 4Wire Model]

E&M Type Selection



- 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

2-Wire Setting



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

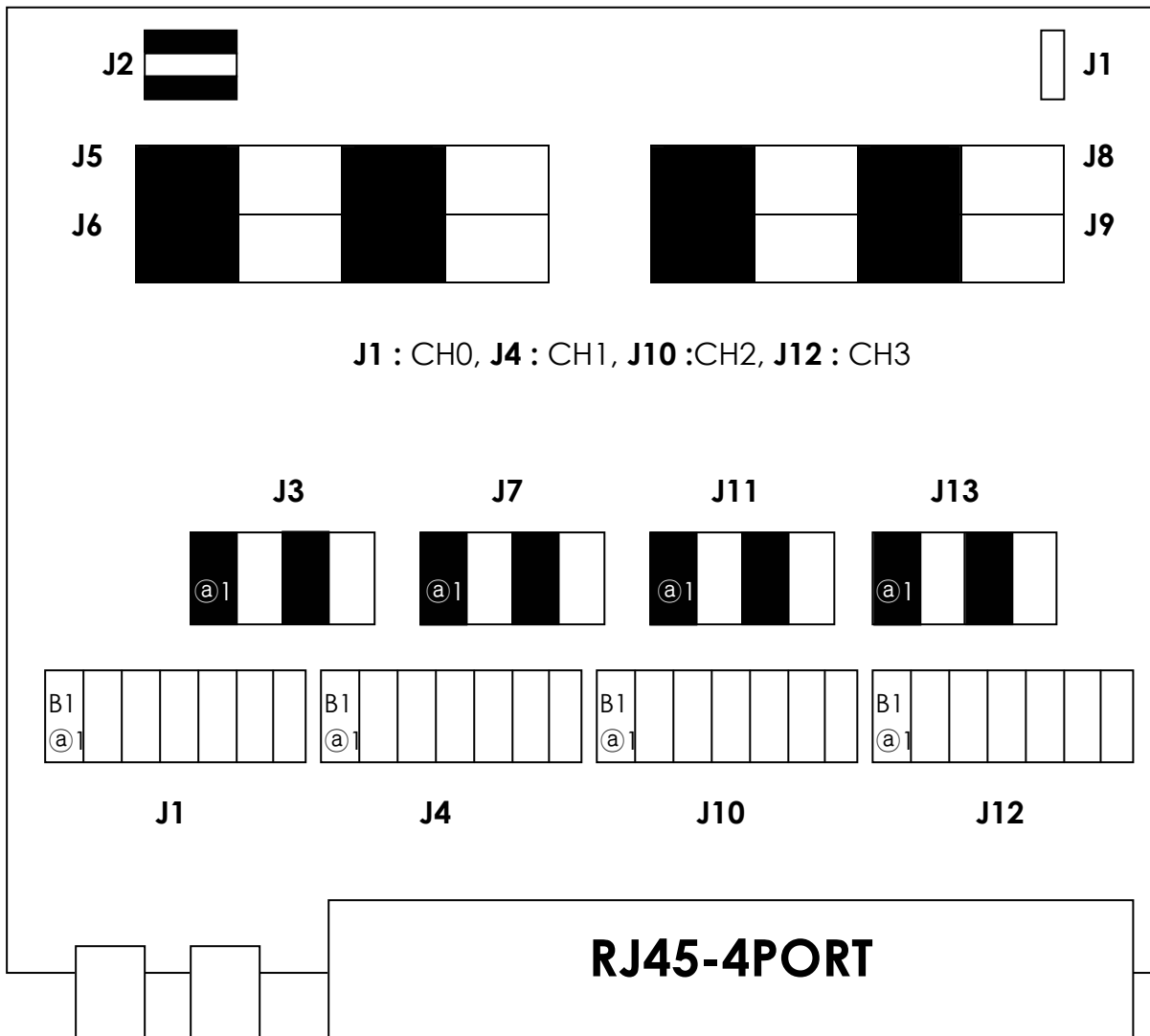


* 2Wire Setting : A2, B2 Connection
 A4, B4 Connection



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

4-Wire Setting



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