

# E&M Cable Pinouts to Connect Cisco 1750/2600/3600 E&M VIC to Nortel PBX Option 11 E&M Trunk

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## Contents

[Introduction](#)

[Prerequisites](#)

[Requirements](#)

[Components Used](#)

[Conventions](#)

[Pinout Configuration](#)

[Nortel Option 11 PBX](#)

[VIC-2E&M Pinout](#)

[NetPro Discussion Forums - Featured Conversations](#)

[Related Information](#)

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## Introduction

These are the E&M Cable Pinouts used to connect a Cisco 1700/2600/3600/3700 E&M Voice Interface Card (VIC) to a Nortel PBX Option 11 E&M Trunk.

## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

This document is not restricted to specific software and hardware versions.

### Conventions

For more information on document conventions, refer to the [Cisco Technical Tips Conventions](#).

## Pinout Configuration

The Nortel PBX 25 pair wire Amphenol Cable must be punched down with the standard Nortel PBX E&M punch down scheme as seen in this list in order for the E&M Cable Pinouts to work.

Wires: 5 pairs to a group:

- White-blue, white-orange, white-green, white-brown, white-slate(grey)
- Red-b, R-O, R-G, R-B, R-S

- Black-b, B-O, B-G, B-B, B-S
- Yellow-b, Y-O, Y-G, Y-B, Y-S
- Violet-b, V-O, V-G, V-B, V-S

## Nortel Option 11 PBX

Type 1; 2-wires; router to PBX -----NorTel-----  
 Router Pins PBX

M		2 -- 6	M	1 -- 7
	3 --			
R1	4 -- 4		TA	
T1	5 -- 5		TB	
E		7 -- 3	E	6 --
				8 --

Type 1; 4-wires; router to PBX -----NorTel-----  
 Router Pins PBX

M		2 -- 6	M	1 --
R		3 -- 4	TA	
R1	4 -- 1		RA	
T1	5 -- 2		RB	
T		6 -- 5	TB	
E		7 -- 3	E	8 --

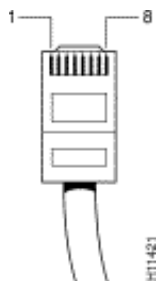
Type 2; 4-wires; router to PBX -----NorTel-----  
 Router Pins PBX

SB	1 -- 7		SB	
M		2 -- 8	M	
R		3 -- 4	TA	
R1	4 -- 1		RA	
T1	5 -- 2		RB	
T		6 -- 5	TB	
E		7 -- 3	E	
SG	8 -- 6		SG	

## VIC-2E&M Pinout

The E&M voice interface card uses an RJ48S connector. The pinout depends on the PBX type and connection. This figure shows the wiring pattern for this connector, and the lists typical configurations.

### RJ48S Wiring



**Note:** Pins that are not used should not be connected.

### E&M Pinouts

Pin	Signal	Description	Two-Wire Operation, Type				Four-Wire Operation, Type			
			1	2	3	5	1	2	3	5
1	SB	-48V signaling battery		SB	SB			SB	SB	
2	M-lead	Signaling input	M	M	M	M	M	M	M	M
3	R	Ring, audio input					R	R	R	R
4	R or R1	Ring, audio input/output or output	R	R	R	R	R1	R1	R1	R1
5	T or T1	Tip, audio input/output or output	T	T	T	T	T1	T1	T1	T1
6	T	Tip, audio input					T	T	T	T
7	E-lead	Signaling output	E	E	E	E	E	E	E	E
8	SG	Signaling ground return		SG	SG			SG	SG	


**Note:** The Nortel Option11C PBX E&M Type I signaling matches the Cisco 3640 (or any other Cisco IOS gateway) Type V signaling. For more information about the Nortel PBX and Cisco Gateway Configuration, refer to [Cisco 3640 Series Gateway-PBX Interoperability: Nortel Meridian 1 Option 11C PBX with Analog E&M Signaling](#).

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## Related Information

- [Analog E&M Signaling Overview](#)
- [Understanding and Troubleshooting Analog E&M Interface Types and Wiring Arrangements](#)
- [Understanding and Troubleshooting Analog E&M Start Dial Supervision Signaling](#)
- [Cisco 3640 Series Gateway-PBX Interoperability: Nortel Meridian 1 Option 11C PBX with Analog E&M Signaling](#)
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- [Understanding E&M Voice Interface Cards](#)
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