



## Job Aid:

# Connector and Cable Diagrams (Pinout Charts)

The pinout charts in this document provide wire color and connector pin numbers for:

- [Circuit pack codes and descriptions for all circuit packs \(unless otherwise noted\)](#)
- [Tip/Ring/Sleeve codes and descriptions](#)
- [Ethernet CAT5 cross-connect cable](#)
- [Circuit pack and auxiliary equipment leads](#)
- [RJ21 circuit pack name cross-reference for Table 5](#)
- [Circuit pack and auxiliary equipment leads](#)
- [MDF circuit pack name cross-reference for Table 7](#)
- [Circuit pack lead pin numbers and color designations](#)
- [DS1 interface cable H600-307](#)
- [DS1 interface cable C6F](#)
- [Port circuit pack and telephone pin designations](#)
- [Auxiliary lead appearances at the AUX connector \(RJ21\) for MCC1 and SCC1 media gateways](#)
- [Global power distribution unit \(MCC1–J58890CH\) external alarm \(RJ21\) connector](#)
- [TN799 C-LAN](#)
- [Ethernet adapter \(black\) for TN799DP C-LAN, TN2302AP IP Media Processor, and TN2501AP VAL](#)
- [TN2312AP IP server interface adapter](#)
- [TN2312BP IP server interface adapter \(grey–700263502\)](#)

## Pinout chart tables

**Table 1: Wire and wire stripe color codes.**

Code	Color
BK	black
BL	blue
BR	brown
O	orange
R	red
S	slate (grey)
V	violet
W	white
Y	yellow

**Note:**

When the color code has two values, the code on the left is the color of the wire and the code on the right is the color of the stripe on the wire. For example, BK-W is a black wire with a white stripe.

**Table 2: Circuit pack codes and descriptions for all circuit packs (unless otherwise noted)**

Lead name identifier	Description
T,R	PBX transmit voice
T1,R1	PBX receive voice
M	PBX transmit signal
E	PBX receive signal
PX	PBX transmit
TX	Terminal transmit
LI, LI*	Digital Trunk IN
LO, LO*	Digital Trunk OUT

**Table 3: Tip/Ring/Sleeve codes and descriptions**

Lead name identifier	Description	Code	Color
T	Tip	(A)	G
R	Ring	(B)	R
S	Sleeve		

An Ethernet CAT5 cable that is used to directly connect a laptop to the services port on the Avaya S8500 or S8700 series media servers must have the following pinouts.

**Table 4: Ethernet CAT5 cross-connect cable**

Pin to the services Ethernet port on the media server	Pin to Ethernet card on the laptop
8	8
7	7
6	2
5	5
4	4
3	1
2	6
1	3

**Table 5: Circuit pack and auxiliary equipment leads**

Wire color	RJ21 25-pair connector pin	ISDN-BRI 4-wire S interface (8 ports) TN2185B	ISDN-BRI 2-wire U interface (12 ports) TN2198	Analog line and CO trunk 2-wire (8)	Digital/analog line 2-wire (16)	Data/digital line 4-wire (8)	Digital/analog line 2-wire (24)	Hybrid line (8 ports) TN762B	MET line (4 ports) TN735	AUX trunk (4) TN763D
W-BL	26	TXT.1	T.1	T1	T1		T1	V1T1	T1	T1
BL-W	01	TXR.1	R.1	R1	R1		R1	V1R1	R1	R1
W-O	27	PXT.1	T.2		T2	TXT1	T2	CT1	TXT1	SZ1
O-W	02	PXR.1	R.2		R2	TXR1	R2	CR1	TXR1	SZ11
W-G	28	TXT.2	T.3		T3	PXT1	T3	P-1	PXT1	S1

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**Table 5: Circuit pack and auxiliary equipment leads (continued)**

Wire color	RJ21 25-pair connector pin	ISDN-BRI 4-wire S interface (8 ports) TN2185B	ISDN-BRI 2-wire U interface (12 ports) TN2198	Analog line and CO trunk 2-wire (8)	Digital/ analog line 2-wire (16)	Data/ digital line 4-wire (8)	Digital/ analog line 2-wire (24)	Hybrid line (8 ports) TN762B	MET line (4 ports) TN735	AUX trunk (4) TN763D
G-W	03	TXR.2	R.3		R3	PXR1	R3	P+1	PXR1	S11
W-BR	29	PXT.2	T.4	T2	T4		T4	V1T2	T2	T2
BR-W	04	PXR.2	R.4	R2	R4		R4	V1R2	R2	R2
W-S	30	TXT.3	T.5			TXT2	T5	CT2	TXT2	SZ2
S-W	05	TXR.3	R.5			TXR2	R5	CR2	TXR2	SZ12
R-BL	31	PXT.3	T.6			PXT2	T6	P-2	PXT2	S2
BL-R	06	PXR.3	R.6			PXR2	R6	P+2	PXR2	S12
R-O	32	TXT.4	T.7	T3			T7	V1T3	T3	T3
O-R	07	TXR.4	R.7	R3			R7	V1R3	R3	R3
R-G	33	PXT.4	T.8			TXT3	T8	CT3	TXT3	SZ3
G-R	08	PXR.4	R.8			TXR3	R8	CR3	TXR3	SZ13
R-BR	34	TXT.5	T.9		T5	PXT3	T9	P-3	PXT3	S3
BR-R	09	TXR.5	R.9		R5	PXR3	R9	P+3	PXR3	S13
R-S	35	PXT.5	T.10	T4	T6		T10	V1T4	T4	T4
S-R	10	PXR.5	R.10	R4	R6		R10	V1R4	R4	R4
BK-BL	36	TXT.6	T.11		T7	TXT4	T11	CT4	TXT4	SZ4
BL-BK	11	TXR.6	R.11		R7	TXR4	R11	CR4	TXR4	SZ14
BK-O	37	PXT.6	T.12		T8	PXT4	T12	P-4	PXT4	S4
O-BK	12	PXR.6	R.12		R8	PXR4	R12	P+4	PXR4	S14
BK-G	38	TXT.7		T5	T9		T13	V1T5		
G-BK	13	TXR.7		R5	R9		R13	V1R5		
BK-BR	39	PXT.7			T10	TXT5	T14	CT5		
BR-BK	14	PXR.7			R10	TXR5	R14	CR5		
BK-S	40	TXT.8			T11	PXT5	T15	P-5		
S-BK	15	TXR.8			R11	PXR5	R15	P+5		
Y-BL	41	PXT.8		T6	T12		T16	V1T6		
BL-Y	16	PXR.8		R6	R12		R16	V1R6		
Y-O	42					TXT6	T17	CT6		

Table 5: Circuit pack and auxiliary equipment leads (continued)

Wire color	RJ21 25-pair connector pin	ISDN-BRI 4-wire S interface (8 ports) TN2185B	ISDN-BRI 2-wire U interface (12 ports) TN2198	Analog line and CO trunk 2-wire (8)	Digital/ analog line 2-wire (16)	Data/ digital line 4-wire (8)	Digital/ analog line 2-wire (24)	Hybrid line (8 ports) TN762B	MET line (4 ports) TN735	AUX trunk (4) TN763D
O-Y	17					TXR6	R17	CR6		
Y-G	43					PXT6	T18	P-6		
G-Y	18					PXR6	R18	P+6		
Y-BR	44			T7			T19	V1T7		
BR-Y	19			R7			R19	V1R7		
Y-S	45					TXT7	T20	CT7		
S-Y	20					TXR7	R20	CR7		
V-BL	46				T13	PXT7	T21	P-7		
BL-V	21				R13	PXR7	R21	P+7		
V-O	47			T8	T14		T22	V1T8		
O-V	22			R8	R14		R22	V1R8		
V-G	48				T15	TXT8	T23	CT8		
G-V	23				R15	TXR8	R23	CR8		
V-BR	49				T16	PXT8	T24	P-8		
BR-V	24				R16	PXR8	R24	P+8		
V-S	50	GRD	GRD	GRD	GRD	GRD	GRD	GRD	GRD	GRD
S-V	25	GRD	GRD	GRD	GRD	GRD	GRD	GRD	GRD	GRD

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**Table 6: RJ21 circuit pack name cross-reference for [Table 5](#)**

Analog line, CO, and DID trunk 2-wire (8 ports)	Digital/analog line 2-wire (16 ports)	Data/ digital line 4-wire (8 ports)	Digital/ analog line 2-wire (24 ports)
TN429D	TN479	TN726B	TN793CP
TN436B	TN746B	TN754C	TN2214CP
TN438B	TN791		TN2224CP
TN459B	TN2181		
TN465C	TN2183		
TN747B	TN2215		
TN753B			
TN769			
TN797			
TN2138			
TN2139			
TN2146			
TN2147C			
TN2308			

**Table 7: Circuit pack and auxiliary equipment leads**

Wire color	RJ21 25-pair connector pin	Cross-connect MDF pin	CO trunk 3-wire (4 ports) TN2199	Tie trunk (4 ports)	DS1 trunk	ISDN BRI line 4-wire (12 ports) TN556D	4 port DIOD TN2184
W-BL	26	1	A1	T1		PXR1	T1
BL-W	01	2	B1	R1		PXT1	R1
W-O	27	3		T11		TXT1	
O-W	02	4		R11		TXR1	

Table 7: Circuit pack and auxiliary equipment leads (continued)

Wire color	RJ21 25-pair connector pin	Cross-connect MDF pin	CO trunk 3-wire (4 ports) TN2199	Tie trunk (4 ports)	DS1 trunk	ISDN BRI line 4-wire (12 ports) TN556D	4 port DIOD TN2184
W-G	28	5		E1		PXR2	
G-W	03	6	C1	M1		PXT2	
W-BR	29	7	A2	T2		TXT2	T2
BR-W	04	8	B2	R2		TXR2	R2
W-S	30	9		T12		PXR3	
S-W	05	10		R12		PXT3	
R-BL	31	11		E2		TXT3	
BL-R	06	12	C2	M2		TXR3	
R-O	32	13	A3	T3		PXR4	T3
O-R	07	14	B3	R3		PXT4	R3
R-G	33	15		T13		TXT4	
G-R	08	16		R13		TXR4	
R-BR	34	17		E3		PXR5	
BR-R	09	18	C3	M3		PXT5	
R-S	35	19	A4	T4		TXT5	T4
S-R	10	20	B4	R4		TXR5	R4
BK-BL	36	21		T14		PXR6	
BL-BK	11	22		R14		PXT6	
BK-O	37	23		E4		TXT6	
O-BK	12	24		M4		TXR6	
BK-G	38	25				PXR7	
G-BK	13	26				PXT7	
BK-BR	39	27				TXT7	
BR-BK	14	28				TXR7	

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Table 7: Circuit pack and auxiliary equipment leads (continued)

Wire color	RJ21 25-pair connector pin	Cross-connect MDF pin	CO trunk 3-wire (4 ports) TN2199	Tie trunk (4 ports)	DS1 trunk	ISDN BRI line 4-wire (12 ports) TN556D	4 port DIOD TN2184
BK-S	40	29				PXR8	
S-BK	15	30				PXT8	
Y-BL	41	31				TXT8	
BL-Y	16	32				TXR8	
Y-O	42	33				PXR9	
O-Y	17	34				PXT9	
Y-G	43	35				TXT9	
G-Y	18	36				TXR9	
Y-BR	44	37				PXR10	
BR-Y	19	38				PXT10	
Y-S	45	39				TXT10	
S-Y	20	40				TXR10	
V-BL	46	41				PXR11	
BL-V	21	42				PXT11	
V-O	47	43			LI*	TXT11	
O-V	22	44			LI	TXR11	
V-G	48	45			LO	PXR12	
G-V	23	46			LO*	PXT12	
V-BR	49	47			LBACK2	TXT12	
BR-V	24	48			LBACK1	TXR12	
V-S	50	49	GRD	GRD	GRD	GRD	GRD
S-V	25	50	GRD	GRD	GRD	GRD	GRD

Table 8: MDF circuit pack name cross-reference for [Table 7](#)

Tie trunk (4)	DS1 trunk	ISDN PRI line
TN458	TN464	TN2242
TN760	TN722	
TN2140	TN767	
TN2209	TN2207	
	TN2313	
	TN2464	

Table 9: Circuit pack lead pin numbers and color designations

Wire color	RJ21 25-pair connector pin	Cross-connect pin (MDF)	Backplane pin
W-BL	26	1	102
BL-W	01	2	002
W-O	27	3	103
O-W	02	4	003
W-G	28	5	104
G-W	03	6	004
W-BR	29	7	105
BR-W	04	8	005
W-S	30	9	106
S-W	05	10	006
R-BL	31	11	107
BL-R	06	12	007
R-O	32	13	108
O-R	07	14	008
R-G	33	15	109
G-R	08	16	009
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**Table 9: Circuit pack lead pin numbers and color designations (continued)**

Wire color	RJ21 25-pair connector pin	Cross-connect pin (MDF)	Backplane pin
R-BR	34	17	110
BR-R	09	18	010
R-S	35	19	111
S-R	10	20	011
BK-BL	36	21	112
BL-BK	11	22	012
BK-O	37	23	113
O-BK	12	24	013
BK-G	38	25	302
G-BK	13	26	202
BK-BR	39	27	303
BR-BK	14	28	203
BK-S	40	29	304
S-BK	15	30	204
Y-BL	41	31	305
BL-Y	16	32	205
Y-O	42	33	306
O-Y	17	34	206
Y-G	43	35	307
G-Y	18	36	207
Y-BR	44	37	308
BR-Y	19	38	208
Y-S	45	39	309
S-Y	20	40	209
V-BL	46	41	310

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**Table 9: Circuit pack lead pin numbers and color designations (continued)**

Wire color	RJ21 25-pair connector pin	Cross-connect pin (MDF)	Backplane pin
BL-V	21	42	210
V-O	47	43	311
O-V	22	44	211
V-G	48	45	312
G-V	23	46	212
V-BR	49	47	313
BR-V	24	48	213
V-S	50	49	300
S-V	25	50	200
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**Table 10: DS1 interface cable H600-307**

Wire color	50-pin Pin	Lead Designation	Color	15-pin Pin	Lead Designation
W-BL	02	—	—	—	—
BL-W	03	—	—	—	—
W-G	47	LI (High)	W-G	11	LI (High)
G-W	22	LI	G-W	03	LI
W-BR	48	LO	W-BR	09	LO
BR-W	23	LO (High)	BR	01	LO (High)
W-S	49	LOOP2	W-S	06	LOOP2
S-W	24	LOOP1	S-W	05	LOOP1
All other pins are empty.					

**Table 11: DS1 interface cable C6F**

Wire color	Lead Designation	Pin Number
W-G	LI* (High Side)	47
G	LI	22
W-BR	LO	48
BR	LO* (High Side)	23
W-S	LBACK2	49
S	LBACK1	24

**Table 12: Port circuit pack and telephone pin designations**

Pin on Modular Plug	4-wire: 8400-Series, 606A1	2-wire: 302D, 8400-Series, 603E	8510T BRI (with adjunct speaker phone)	Analog Station and Modem	NT1
1	TXT	—	—	—	—
2	TXR	—	—	T	—
3	PXT	—	TXT	R	—
4	—	T	PXR	—	T
5	—	R	PXT	No connection 4-pin modular jack	R
6	PXR	—	TXR	No connection 4-pin modular jack	—
7	-48VDC	(-48VDC)	(-48VDC)	No connection 4-pin modular jack	-48VDC
8	GRD	GRD	GRD		GRD
Circuit pack	TN754 4-wire digital (8 port)	TN2181 2-wire digital (16 Port) TN2224 2-wire digital (24 port)	TN556 ISDN-BRI line	TN2183 analog line (16 port)	TN2198 2-wire BRI line
PX PBX transmit—T Tip (A) TX Terminal transmit—R Ring (B)					

**Table 13: Auxiliary lead appearances at the AUX connector (RJ21) for MCC1 and SCC1 media gateways**

Wire color	RJ21 25-pair connector pin	Output	Power
W-BL	26	Major <sup>1</sup>	—
BL-W	1	Major GRD	—
W-O	27	Minor <sup>2</sup>	—
O-W	2	Minor GRD	—
W-G	28	—	—
G-W	3	GRD	—
W-BR	29	—	—
BR-W	4	GRD	—
W-S	30	—	—
S-W	5	GRD	—
R-BL	31	—	—
BL-R	6	GRD	—
R-O	32	—	—
O-R	7	GRD	—
R-G	33	Not connected	—
G-R	8	Not connected	—
R-BR	34	Not connected	—
BR-R	9	Not connected	—
R-S	35	Not connected	—
S-R	10	Not connected	—
BK-BL	36	-48	Emergency transfer relay power
BL-BK	11	GRD	Emergency transfer relay power
BK-O	37	-48	Emergency transfer relay power
O-BK	12	GRD	Emergency transfer relay power

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**Table 13: Auxiliary lead appearances at the AUX connector (RJ21) for MCC1 and SCC1 media gateways (continued)**

Wire color	RJ21 25-pair connector pin	Output	Power
BK-G	38	-48	Emergency transfer relay power
G-BK	13	GRD	Emergency transfer relay power
BK-BR	39	-48	Emergency transfer relay power
BR-BK	14	GRD	Emergency transfer relay power
BK-S	40	-48	Emergency transfer relay power
S-BK	15	GRD	Emergency transfer relay power
Y-BL	41	-48	Emergency transfer relay power
BL-Y	16	GRD	Emergency transfer relay power
Y-O	42	-48	Emergency transfer relay power
O-Y	17	GRD	Emergency transfer relay power
Y-G	43	Not Connected	—
G-Y	18	Not Connected	—
Y-BR	44	GRD	AUX power for attendant consoles
BR-Y	19	-48	AUX power for attendant consoles
Y-S	45	GRD	AUX power for attendant consoles
S-Y	20	-48	AUX power for attendant consoles
V-BL	46	GRD	AUX power for attendant consoles
BL-V	21	-48	AUX power for attendant consoles
V-O	47	Not connected	—
O-V	22	Not connected	—
V-G	48	Ext alarm A <sup>3</sup>	—
G-V	23	Ext alarm return	—
V-BR	49	Not connected	—
BR-V	24	Not connected	—

**Table 13: Auxiliary lead appearances at the AUX connector (RJ21) for MCC1 and SCC1 media gateways (continued)**

Wire color	RJ21 25-pair connector pin	Output	Power
V-S	50	INADS tip	—
S-V	25	INADS ring	—

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1. External major alarm input pair from an external isolated contact closure (60 VDC max, 5 mA max)
2. External minor alarm input pair from an external isolated contact closure (60 VDC max, 5 mA max)
3. Output alarm from the Media Gateway, via a contact closure, to the equipment room alarm light or bell

**Table 14: Global power distribution unit (MCC1–J58890CH) external alarm (RJ21) connector**

RJ21 25-pair connector pin	Designation	Definition
26	Not used	—
1	Not used	—
27	Not used	—
2	Not used	—
28	Not used	—
3	Not used	—
29	Not used	—
4	Not used	—
30	Not used	—
5	Not used	—
31	Not used	—
32	Not used	—
7	Not used	—
33	RFA2+	Rectifier failure (positive)

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**Table 14: Global power distribution unit (MCC1–J58890CH) external alarm (RJ21) connector (continued)**

<b>RJ21 25-pair connector pin</b>	<b>Designation</b>	<b>Definition</b>
8	RFA2-	Rectifier failure return (negative)
34	ACF2+	AC failure (positive)
9	ACF2-	AC failure return (negative)
35	BIF2+	Battery interface unit failure (positive)
10	BIF2-	Battery interface unit failure return (negative)
36	BOD2+	Battery on discharge (positive)
11	BOD2-	Battery on discharge return (negative)
37	Not used	—
12	RXD	Receive data—not used
38	TXD	Transmit data—not used
13	DTR	Data terminal ready—not used
39	RS-232 GRD	RS-232 ground—not used
14	DSR	Data set ready—not used
40	RTS	Request to send—not used
15	Not used	—
41	Not used	—
16	Not used	—
42	Not used	—
17	Not used	—
43	Not used	—
18	Not used	—
44	Not used	—
19	Not used	—

**Table 14: Global power distribution unit (MCC1–J58890CH) external alarm (RJ21) connector (continued)**

<b>RJ21 25-pair connector pin</b>	<b>Designation</b>	<b>Definition</b>
45	Not used	—
20	Not used	—
46	Not used	—
21	Not used	—
47	Not used	—
22	Not used	—
48	Not used	—
23	Not used	—
49	Not used	—
24	Not used	—
50	Not used	—
25	Not used	—
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Table 15: TN799 C-LAN

Wire color	RJ21 25-pair connector pin	Backplane pin	Lead name
W-O	27	103	TD+
O-W	2	003	TD-
W-G	28	104	RD+
G-W	3	004	RD-

Table 16: Ethernet adapter (black) for TN799DP C-LAN, TN2302AP IP Media Processor, and TN2501AP VAL

To RJ45 jack	From 50-pin plug	Function
1	32	TX+
2	7	TX-
3	44	RX+
4	18	GRD
5	43	GRD
6	19	RX-
7	45	GRD
8	20	GRD

**Table 17: Ethernet adapter for TN2602AP IP Media Resource 320 (can be used for TN2302AP)**

To RJ45 jack (port 1)	To RJ45 jack (port 2)	From 50-pin plug	Function
1		43	TX+
2		18	TX-
3		44	RX+
4		17	GRD
5		42	GRD
6		19	RX-
7		45	GRD
8		20	GRD
	1	27	TX+
	2	2	TX-
	3	29	RX+
	4	1	GRD
	5	26	GRD
	6	4	RX-
	7	30	GRD
	8	5	GRD

**Table 18: TN2312AP IP server interface adapter**

To RJ45 jack	From 50-pin plug	Function
1	43	TX+
2	18	TX-
3	44	RX+
6	19	RX-
—	39 <sup>1</sup>	FP-NBPSEL
—	14 <sup>1</sup>	GRD

1. The pins are shorted on a 50-pin plug.

**Table 19: TN2312BP IP server interface adapter (grey-700263502)**

Function	50-pin wire color <sup>1</sup>	From 50-pin plug (terminal number)	To RJ45 jack	To DB9 connector (terminal number)	DB9 cable color
TX+	Y-G	43	1	—	—
TX-	G-Y	18	2	—	—
RX+	Y-BR	44	3	—	—
RX-	BR-Y	19	6	—	—
FP-NBPSEL	BK-BR	39 <sup>2</sup>	—	—	—
GRD	BR-BK	14 <sup>2</sup>	—	—	—
XFER48	BK-BL	36	—	1	BL-W
GRD	BL-BK	11	—	2	W-BL
Minor (~AP2)	R-BR	34	—	3	O-W
GRD	V-S	50	—	8	W-O
Major (~AP1)	BR-R	9	—	6	BR-W
GRD	S-V	25	—	7	W-BR
EXTALMA	R-O	32	—	4	G-W
EXTALMB	O-R	7	—	5	W-G

1. The code on the left is for the color of the wire. The code on the right is for the color of the stripe on the wire. The codes and their corresponding colors are as follows: W—white, BL—blue, O—orange, BR—brown, S—slate (grey), R—red, BK—black, V—violet, Y—yellow, and G—green.

2. The pins are shorted on a 50-pin plug.