Job Aid
Connector and Cable Diagrams
(Pinout Charts)

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

- Crossover cable
- Circuit pack and auxiliary equipment leads
- Circuit pack and auxiliary equipment leads
- 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 (J58890CH) external alarm (RJ21) connector
- TN799 C-LAN
- Ethernet adapter (black) for TN799DP C-LAN, TN2302AP IP media processor, and the TN2501AP VAL (848525887)
- TN2312AP IP server interface adapter
- TN2312BP IP server interface adapter (grey—700263502)
- Circuit pack name cross-reference for Table 4
- Circuit pack name cross-reference for Table 5

Pinout chart tables

NOTE:
Columns with the heading "Color" use the following codes and values (unless otherwise noted): W— white, BL—blue, O—orange, BR—brown, S—slate (grey), R—red, BK—black, V—violet, Y—yellow, and G—green. When the color code has two values, for example, V-BR, the code on the left is the color of the wire. The code on the right is the color of the stripe on the wire

Table 1: .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 2: Tip/ring/sleeve codes and descriptions

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

An Ethernet CAT5 cable that is used to directly connect a laptop to the services port on the Avaya S8500 or S8700 Media Gateway must have the following pinouts:

Table 3: Crossover cable

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

Table 4: Circuit pack and auxiliary equipment leads

Color	Cross-connect RJ21 Pins	ISDN-BRI 4-wire S interface (8)	ISDN-BRI 2-wire U interface (12)	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)	MET line (4)	AUX trunk (4)
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
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		
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		

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Table 4: Circuit pack and auxiliary equipment leads

Color	Cross-connect RJ21 Pins	ISDN-BRI 4-wire S interface (8)	ISDN-BRI 2-wire U interface (12)	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)	MET line (4)	AUX trunk (4)
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 5: Circuit pack and auxiliary equipment leads

Color	Cross-connect pin (MDF)	CO trunk 3-wire (4)	Tie trunk (4)	DS1 trunk	ISDN BRI line 4-wire (12)	4 port DIOD
W-BL	26	A1	T1		PXR1	T1
BL-W	01	B1	R1		PXT1	R1
W-O	27		T11		TXT1	
O-W	02		R11		TXR1	
W-G	28		E1		PXR2	
G-W	03	C1	M1		PXT2	
W-BR	29	A2	T2		TXT2	T2
BR-W	04	B2	R2		TXR2	R2
W-S	30		T12		PXR3	
S-W	05		R12		PXT3	
R-BL	31		E2		TXT3	
BL-R	06	C2	M2		TXR3	
R-O	32	A3	T3		PXR4	T3
O-R	07	B3	R3		PXT4	R3
R-G	33		T13		TXT4	
G-R	08		R13		TXR4	
R-BR	34		E3		PXR5	
BR-R	09	C3	M3		PXT5	
R-S	35	A4	T4		TXT5	T4
S-R	10	B4	R4		TXR5	R4
BK-BL	36		T14		PXR6	
BL-BK	11		R14		PXT6	
BK-O	37		E4		TXT6	
O-BK	12		M4		TXR6	
BK-G	38				PXR7	
G-BK	13				PXT7	

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Table 5: Circuit pack and auxiliary equipment leads

Color	Cross-connect pin (MDF)	CO trunk 3-wire (4)	Tie trunk (4)	DS1 trunk	ISDN BRI line 4-wire (12)	4 port DIOD
BK-BR	39				TXT7	
BR-BK	14				TXR7	
BK-S	40				PXR8	
S-BK	15				PXT8	
Y-BL	41				TXT8	
BL-Y	16				TXR8	
Y-O	42				PXR9	
O-Y	17				PXT9	
Y-G	43				TXT9	
G-Y	18				TXR9	
Y-BR	44				PXR10	
BR-Y	19				PXT10	
Y-S	45				TXT10	
S-Y	20				TXR10	
V-BL	46				PXR11	
BL-V	21				PXT11	
V-O	47			LI*	TXT11	
O-V	22			LI	TXR11	
V-G	48			LO	PXR12	
G-V	23			LO*	PXT12	
V-BR	49			LBACK2	TXT12	
BR-V	24			LBACK1	TXR12	
V-S	50	GRD	GRD	GRD	GRD	GRD
S-V	25	GRD	GRD	GRD	GRD	GRD

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Table 6: Circuit pack lead pin numbers and color designations

Cross-connect pin (MDF)	Color	(RJ21) Amphenol pin	Backplane pin
1	W-BL	26	102
2	BL-W	01	002
3	W-O	27	103
4	O-W	02	003
5	W-G	28	104
6	G-W	03	004
7	W-BR	29	105
8	BR-W	04	005
9	W-S	30	106
10	S-W	05	006
11	R-BL	31	107
12	BL-R	06	007

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Table 6: Circuit pack lead pin numbers and color designations

Cross-connect pin (MDF)	Color	(RJ21) Amphenol pin	Backplane pin
13	R-O	32	108
14	O-R	07	008
15	R-G	33	109
16	G-R	08	009
17	R-BR	34	110
18	BR-R	09	010
19	R-S	35	111
20	S-R	10	011
21	BK-BL	36	112
22	BL-BK	11	012
23	BK-O	37	113
24	O-BK	12	013
25	BK-G	38	302
26	G-BK	13	202
27	BK-BR	39	303
28	BR-BK	14	203
29	BK-S	40	304
30	S-BK	15	204
31	Y-BL	41	305
32	BL-Y	16	205
33	Y-O	42	306
34	O-Y	17	206
35	Y-G	43	307
36	G-Y	18	207
37	Y-BR	44	308
38	BR-Y	19	208
39	Y-S	45	309
40	S-Y	20	209
41	V-BL	46	310
42	BL-V	21	210
43	V-O	47	311
44	O-V	22	211
45	V-G	48	312
46	G-V	23	212
47	V-BR	49	313
48	BR-V	24	213
49	V-S	50	300
50	S-V	25	200

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Table 7: DS1 interface cable H600-307

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

Table 8: DS1 interface cable C6F

Wire Color	Lead Designation	Pin Number
White/Green	LI* (High Side)	47
Green	LI	22
White/Brown	LO	48
Brown	LO* (High Side)	23
White/Slate	LBACK2	49
Slate	LBACK1	24

Table 9: 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
PX PBX transmit—T Tip (A)					
TX Terminal transmit—R Ring (B)					*1 of 2*

Table 9: 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
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)   *2 of 2*

Table 10: Auxiliary lead appearances at the AUX connector (RJ21) for MCC1 and SCC1 media gateways

Color	Pinouts	Output	Power
W-BL	26	Major[*]	—
BL-W	1	Major GRD	—
W-O	27	Minor[†]	—
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

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Table 10: Auxiliary lead appearances at the AUX connector (RJ21) for MCC1 and SCC1 media gateways

Color	Pinouts	Output	Power
BK-O	37	-48	Emergency transfer relay power
O-BK	12	GRD	Emergency transfer relay 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‡	—
G-V	23	Ext alarm return	—
V-BR	49	Not connected	—
BR-V	24	Not connected	—
V-S	50	INADS tip	—
S-V	25	INADS ring	—
			2 of 2

* External major alarm input pair from an external isolated contact closure (60 VDC max, 5mA max)

† External minor alarm input pair from an external isolated contact closure (60 VDC max, 5mA max)

‡ Output alarm from the Media Gateway, via a contact closure, to the equipment room alarm light or bell

Table 11: Global power distribution unit (J58890CH) external alarm (RJ21) 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	—
6	Not used	—
32	Not used	—
7	Not used	—
33	RFA2+	Rectifier failure (positive)
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	—
45	Not used	—
20	Not used	—
46	Not used	—

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Table 11: Global power distribution unit (J58890CH) external alarm (RJ21) connector

Pin	Designation	Definition
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	—
		2 of 2

Table 12: TN799 C-LAN

Backplane Pin	25-Pair Wire Color	Lead Name	Peripheral Connector Pin
103	White/Orange	TD+	27
003	Orange/White	TD-	2
104	White/Green	RD+	28
004	Green/White	RD-	3

Table 13: Ethernet adapter (black) for TN799DP C-LAN, TN2302AP IP media processor, and the TN2501AP VAL (848525887)

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 14: 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[*]	FP-NBPSEL
—	14[*]	GRD

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

Table 15: TN2312BP IP server interface adapter (grey—700263502)

Function	50-pin wire color[*]	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[†]	—	—	—
GRD	BR-BK	14[‡]	—	—	—
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

  *   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.

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

Table 16: Circuit pack name cross-reference for Table 4

ISDN-BRI 4-wire S interface (8)	ISDN-BRI 2-wire U interface (12)	Analog line, CO, and DID 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)	MET line (4)	AUX trunk (4)
TN2185	TN2198	TN411	TN448	TN413	TN793	TN762	TN735	TN417
		TN421	TN468	TN564	TN2214			TN763
		TN422	TN479	TN726	TN2224			
		TN429	TN746	TN754	TN2793			
		TN431	TN791					
		TN432	TN2135					
		TN436	TN2149					
		TN438	TN2181					
		TN447	TN2183					
		TN459	TN2215					
		TN465						
		TN467						
		TN742						
		TN747						
		TN753						
		TN769						
		TN797						
		TN2138						
		TN2139						
		TN2146						
		TN2147						
		TN2148						
		TN2308						

Table 17: Circuit pack name cross-reference for Table 5

CO trunk 3-wire (4)	Tie trunk (4)	DS1 trunk	ISDN BRI line 4-wire (12)	4 port DIOD
TN2199	TN415	TN464	TN556	TN2184
	TN434	TN483		
	TN449	TN722		
	TN458	TN767		
	TN478	TN2207		
	TN760	TN2313		
	TN2140	TN2464		
	TN2209			