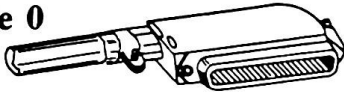


# 8.10 Wiring Standards

## Schedule 0



### 50-position to 25 Pair Wiring

There is only one 50-position to 25-pair wiring standard in the communications industry. We define it as Schedule 0.

25-pair Color is band-stripe color code. Each conductor has a dominant band and a thin stripe. A pair has matching opposite band-stripe combinations, for Pair 1, WHT/BLU color:

Tip (T) is mostly White (band) with a Blue stripe.  
Ring (R) is mostly Blue (band) with a White stripe.

Tip (T) Bands		Ring (R) Bands	
White	WHT	BLU	Blue
Red	RED	ORG	Orange
Black	BLK	GRN	Green
Yellow	YEL	BRN	Brown
Violet	VLT	SLT	Slate

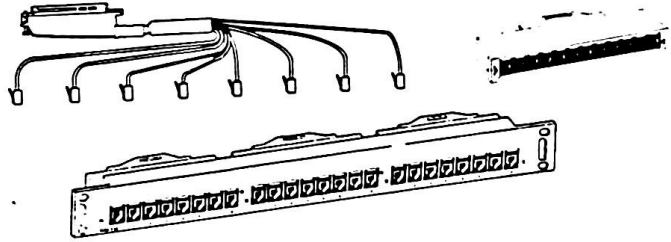
CDR is the 25 pair conductor designation.

CH-CDR is the channel (first two digits) dash channel conductor designation.

50-position	25 pair	4-wire	6-wire	8-wire
Pair	Pin Color CDR	CH-CDR	CH-CDR	CH-CDR
1	26 WHT 1T	01-T1	01-T1	01-T1
	1 BLU 1R	-R1	-R1	-R1
2	27 WHT 2T	-T2	-T2	-T2
	2 ORG 2R	-R2	-R2	-R2
3	28 WHT 3T	02-T1	02-T1	02-T1
	3 GRN 3R	-R1	-R3	-T3
4	29 WHT 4T	-T2	02-T1	T4
	4 BRN 4R	-R2	-R1	-R4
5	30 WHT 5T	03-T1	-T2	02-T1
	5 SLT 5R	-R1	-R2	-R1
6	31 RED 6T	-T2	-T3	-T2
	6 BLU 6R	-R2	-R3	-R2
7	32 RED 7T	04-T1	03-T1	-T3
	7 ORG 7R	-R1	-R1	-R3
8	33 RED 8T	-T2	-T2	-T4
	8 GRN 8R	-R2	-R2	-R4
9	34 RED 9T	05-T1	-T3	03-T1
	9 BRN 9R	-R1	-R3	-R1
10	35 RED 10T	-T2	04-T1	-T2
	10 SLT 10R	-R2	-R1	-R2
11	36 BLK 11T	06-T1	-T2	-T3
	11 BLU 11R	-R1	-R2	-R3
12	37 BLK 12T	-T2	-T3	-T4
	12 ORG 12R	-R2	-R3	-R4
13	38 BLK 13T	07-T1	05-T1	04-T1
	13 GRN 13R	-R1	-R1	-R1
14	39 BLK 14T	-T2	-T2	-T2
	14 BRN 14R	-R2	-R2	-R2
15	40 BLK 15T	08-T1	-T3	-T3
	15 SLT 15R	-R1	-R3	-R3
16	41 YEL 16T	-T2	06-T1	-T4
	16 BLU 16R	-R2	-R1	-R4
17	42 YEL 17T	09-T1	-T2	05-T1
	17 ORG 17R	-R1	-R2	-R1
18	43 YEL 18T	-T2	-T3	-T2
	18 GRN 18R	-R2	-R3	-R2
19	44 YEL 19T	10-T1	07-T1	-T3
	19 BRN 19R	-R1	-R1	-R3
20	45 YEL 20T	-T2	-T2	-T4
	20 SLT 20R	-R2	-R2	-R4
21	46 VLT 21T	11-T1	-T3	06-T1
	21 BLU 21R	-R1	-R3	-R1
22	47 VLT 22T	-T2	08-T1	-T2
	22 ORG 22R	-R2	-R1	-R2
23	48 VLT 23T	12-T1	-T2	-T3
	23 GRN 23R	-R1	-R2	-R3
24	49 VLT 24T	-T2	-T3	-T4
	24 BRN 24R	-R2	-R3	-R4
25	50 VLT 25T	OW-T	OW-T	OW-T
	25 SLT 25R	-R	-R	-R

(Order Wire channel, OW, is spare.)

## Sequence



### 50-position to Modular Wiring

The 50-position to modular pin wiring in such components as the Harmonica, Octopus, and MOD Patch Panel is called the Sequence. There are four standard Sequences in use today: STND, MMJ, 258A, and BT.

#### STND

This is the original US voice communications industry standard. Most Voice equipment is compatible with this Sequence. Available in WE4W, WE6W, WE8W and WE8K modular polarizations 4-, 6-, and 8-wire channels.

Channel Conductor	8-wire MODpin	6-wire MODpin	4-wire MODpin
T1	5	4	4
R1	4	3	3
T2	3	2	2
R2	6	5	5
T3	2	1	
R3	7	6	
T4	8		
R4	1		

#### MMJ

This is an adaptation of STND especially suited to asynchronous RS232 and RS423 Interface Data equipment. Available in WE6R Polarization 4- or 6-wire channels.

Channel Conductor	6-wire MODpin
T1	2
R1	3
T2	5
R2	4
T3	1
R3	6

#### 258A

This is an adaptation of STND used by AT&T. 8-wire channels in WE8W or WE8K Polarizations.

Channel Conductor	8-wire MODpin	AT&T Designation
T1	5	TT
R1	4	TR
T2	1	BT
R2	2	BR
T3	3	AT
R3	6	AR
T4	7	LT
R4	8	LR

#### BT

This is the British Telecom standard for their BT4L, BT6L, BT4H and BT6H Polarizations. Available 4- and 6-wire.

Channel Conductor	6-wire MODpin	4-wire MODpin
T1	5	5
R1	2	2
T2	3	3
R2	4	4
T3	6	
R3	1	

# Wiring Standards 8.11

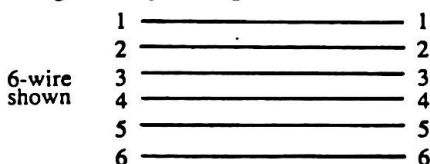
## Normal/Reverse

### Modular to Modular Wiring

Modular-to-modular apparatus such as Couplings, Line Cords, and MOD MOD Adapters can be wired either Normal or Reverse between modular ends. Unless otherwise noted all apparatus is wired Normal.

#### Normal color coded White

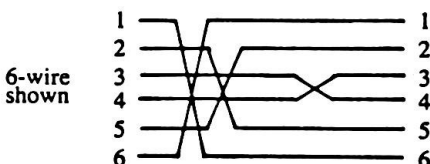
##### Straight-through wiring



8-wire		6-wire		4-wire	
MOD pin	MOD pin	MOD pin	MOD pin	MOD pin	MOD pin
1	1				
2	2				
3	3	1	1		
4	4	2	2	2	2
5	5	3	3	3	3
6	6	4	4	4	4
7	7	5	5	5	5
8	8	6	6		

#### Reverse color coded Red

##### Criss-cross wiring



8-wire		6-wire		4-wire	
MOD pin	MOD pin	MOD pin	MOD pin	MOD pin	MOD pin
1	8				
2	7	1	6		
3	6	2	5	2	5
4	5	3	4	3	4
5	4	4	3	4	3
6	3	5	2	5	2
7	2	6	1		
8	1				

## Polarization

### Modular Jack/Plug Style

There are several polarization styles. A plug from one style will not mate to a jack from another style.

**WE4W**  
**WE6W**  
**WE8W**  
etc.

Western Electric

USOC RJ-series with the locking tab centered below the MOD pins.

**WE4W** 4-wire  
**WE6W** 6-wire  
**WE8M** 8-wire Milled (plug only)  
**WE8W** 8-wire  
**WE8K** 8-wire with Key

Plug to Jack possibilities

<b>WE4W</b>	<b>WE8K</b>	<b>WE8W</b>	<b>WE6W</b>	<b>WE4W</b>
<b>WE6W</b>	<b>WE8K</b>	<b>WE8W</b>	<b>WE6W</b>	<b>WE4W</b>
<b>WE8M</b>	<b>WE8K</b>	<b>WE8W</b>	<b>WE6W</b>	<b>WE4W</b>
<b>WE8W</b>	<b>WE8K</b>	<b>WE8W</b>		
<b>WE8K</b>	<b>WE8K</b>			

**WE6R** Western Electric Right (MMJ)

Digital Modified Modular same as WE-W except locking tab is shifted right.

**WE4R** 4-wire  
**WE6R** 6-wire  
**WE8R** 8-wire

Plug to Jack possibilities

<b>WE4R</b>	<b>WE8R</b>	<b>WE6R</b>	<b>WE4R</b>
<b>WE6R</b>	<b>WE8R</b>	<b>WE6R</b>	<b>WE4R</b>
<b>WE8R</b>	<b>WE8R</b>		

**BT4L**  
**BT6L**

British Telecom Line

Locking tab on top, MOD pins 90 degrees left.

**BT4L** 4-wire (plug only)  
**BT6L** 6-wire

Plug to Jack possibilities

<b>BT4L</b>	<b>BT6L</b>
<b>BT6L</b>	<b>BT6L</b>



WE4W



WE6W



WE8W



WE8K



WE6R



BT6L

## ISDN -

The AT&T S/T Interface Part IIA (5DS-900-301, 9/85) specifies that ISDN in the building environment will be point-to-point, operating over twisted pairs, 4 wires minimum, 8 wires maximum, per channel.

The four data signals are mandatory. They may also be used to provide phantom power from NT to TE, CCITT power option 1. If only these signals are used then AT&T S/T will operate over 4-, 6-, or 8-wire channels, STND or 258A Sequence.

The PowerIn signals may be used to provide power from NT to TE per CCITT Power Option 2. The PowerOut signals may be used to provide power from TE to NT (not a CCITT Power Option). If either PowerIn or PowerOut signals are used then 8-wire 258A Sequence should be specified.

TE to NT and TE to TE connections are allowed, for the later case use a Reverse in the channel.

ISDN S/T equipment is defined as either  
TE Terminal End, wired Normal on Equipment  
NT System End, wired Reverse on Equipment

**WE8W MODpin**  
on Equipment

TE Normal	NT Reverse	ISDN Signal
1	8	PowerOut+
2	7	PowerOut-
3	6	DataOut+
4	5	DataIn+
5	4	DataIn-
6	3	DataOut-
7	2	PowerIn-
8	1	PowerIn+