ata Sheet

Data Wiring Sequences and Colour Codes for Faceplates and Patch Panels

Sequences

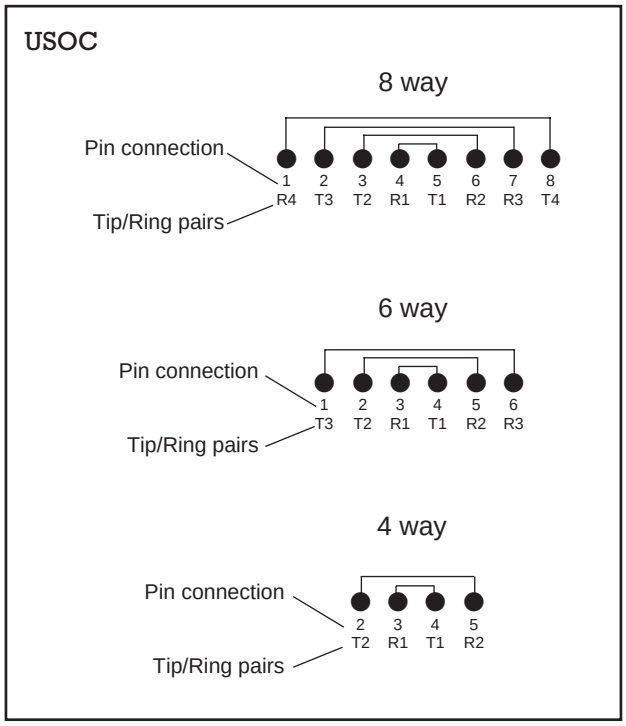
There are four standard sequences used in communications and data signal transmission:

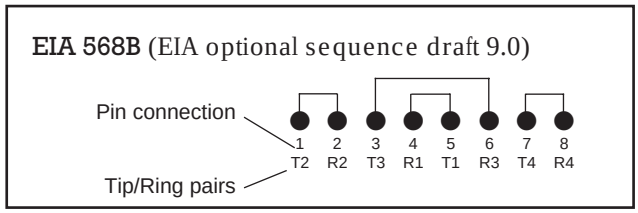
USOC	Universal Service Ordering Codes (used in the USA as voice communication sequences).
EIA 258A (formerly 258A)	Adopted by AT&T, this is the EIA (Electronic Industries Association, USA) optional sequence draft 9.0.
MMJ* USOC	Modular Modified Jack. An adaptation of especially suited to asynchronous RS232 and RS423 interface equipments.
10 base-T	A subset of AT&T 258A used for Ethernet over twisted pair wiring.

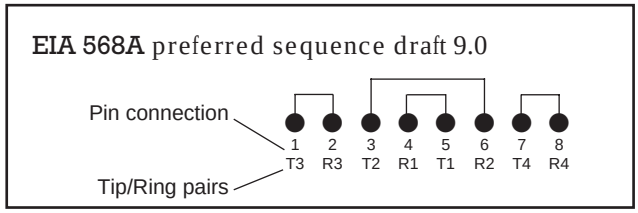
*MMJ is compatible with DEConnect® systems, a registered trademark of Digital Equipment Corporation.

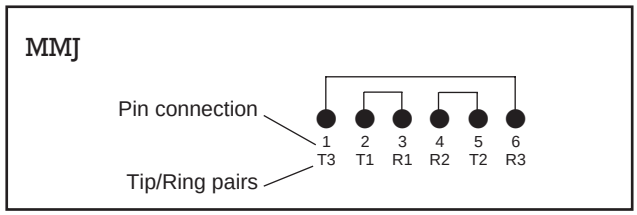
Sequence connections

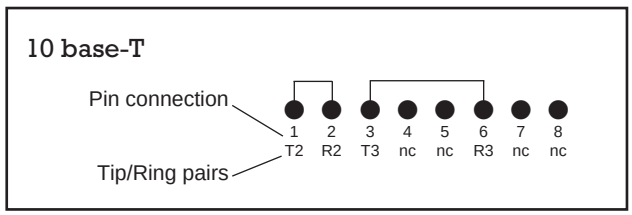
The following sequences show the standard pin connections to 4, 6 and 8 way connectors with respective Tip/Ring wire loops allocated for twisted pair cables.





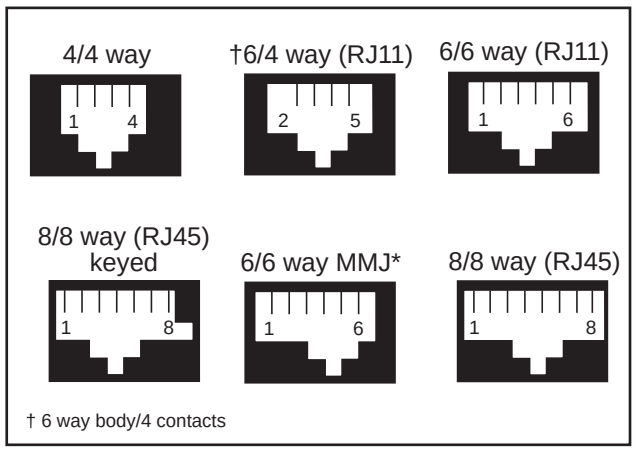






Socket configurations

The diagrams below show the common socket configurations for multi-pair data wiring viewed looking toward the mating face. Sockets are defined by body capacity and number of contacts fitted e.g.. a 6/4 way has the capacity for 6 contacts but is only fitted with 4 contacts.



Wire colour codes

There are two basic wire colour codes. One is for twisted pair cables using dual colour wires and the other is for standard multi-core cables. The colour coding at the rear of the IDC modules and patch panels follows twisted pair colour wiring.

USOC 4/6 wire	Pin no.	Tip/ Ring	Twisted pair	Multi-core
	1	T3*	White/Green	White
	2	T2	White/Orange	Black
	3	R1	Blue/White	Red
	4	T1	White/Blue	Green
	5	R2	Orange/White	Yellow
	6	R3*	Green/White	Blue
	*Omit T3 (pin 1) and R3 (pin 6) for 4 wire.			

USOC 8 wire	Pin no.	Tip/ Ring	Twisted pair	Multi-core
(includes	1	R4	Brown/White	Blue
keyed version)	2	T3	White/Green	Orange
	3	T2	White/Orange	Black
	4	R1	Blue/White	Red
	5	T1	White/Blue	Green
	6	R2	Orange/White	Yellow
	7	R3	Green/White	Brown
	8	T4	White/Brown	Grey

EIA 568B 10 base-T	Pin no.	Tip/ Ring	Twisted pair	Multi-core
8 wire	1	T2	White/Orange	Black
(includes	2	R2	Orange/White	Yellow
keyed version)	3	T3	White/Green	Orange
	4	R1	Blue/White	Red
	5	T1	White/Blue	Green
	6	R3	Green/White	Brown
	7	T4	White/Brown	Grey
	8	R4	Brown/White	Blue

MMJ RS423 6 wire	Pin no.	Tip/ Ring	Twisted pair	Multi-core
	1	T3	White/Green	Orange
	2	T1	White/Blue	Green
	3	R1	Blue/White	Red
	4	R2	Orange/White	Yellow
	5	T2	White/Orange	Black
	6	R3	Green/White	Brown

What structured wiring may be asked to carry:

With a variety of applications available in the market, the following table gives a guideline to the twisted pair transmit and receive functions for common applications.

Application	Pair 1/2	Pair 3/6	Pair 4/5	Pair 7/8
voice	-	-	→ ←	-
ATM	TX	*	*	RX
Token ring	-	TX	RX	-
10 Base T	TX	RX	-	-
100-VG	→ ←	→ ←	→ ←	→ ←
100 Base T4	TX	RX	→ ←	→ ←
100 Base TX	TX	RX	-	-
1000 Base T	→ ←	→ ←	→ ←	→ ←

TX = transmit
RX = receive
⇄ = transmit and receive

* May or may not be used