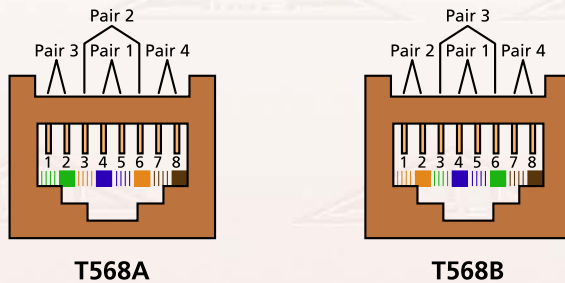


# Technical

## T568A and T568B Wiring Diagrams



## RJ and USOC CODES

The Bell System Universal Service Ordering Code (USOC) system was developed to connect customer premises equipment to the public network. These codes, adopted in part by the FCC, Part 68, Subpart F, Section 68-502, are a series of registered jack (RJ) wiring configurations for telephone jacks that remain in use today.

Registered jack numbers end with a letter indicating the wiring or mounting method being used:

- C** – Surface or flush mounted jack
- W** – Wall mounted jack
- S** – Single-line jack
- M** – Multi-line jack
- X** – Complex multi-line or series-type jack
- T/R** – Connections to the tip and ring wires of a telephone line, trunk, channel or facility
- A/A1** – Connections to the hold functions of key telephone systems. The "A" lead corresponding to a particular telephone line is shorted to the "A1" lead when that line is off hook in order for that line's "hold" functions to operate correctly
- BRIDGED** – A Parallel connection
- DATA** – Configurations using jacks that incorporate components to limit signal power levels of data equipment

## RJ (USOC) Jack Descriptions

**RJ-11C and RJ-11W:** Are normally associated with single-line ancillary devices, telephone sets, or -9 dBm (permissive) modems and provide bridged connections to the tip and ring of a telephone line. RJ-11C is surface or flush-mounted for use with desk telephone sets, while RJ-11W is used for wall mounted telephone sets.

**RJ-12C and RJ-12W:** Are normally associated with one line of a key telephone system, they provide a bridged connection to the tip and ring of the telephone line and to key system A and A1 leads. The tip and ring conductors in the jack are connected ahead of the key telephone-system line circuit. The RJ-12C is surface or flush mounted for use with desk telephone sets while the RJ-12W is for wall mounted telephone sets. Typically, these arrangements are used when registered ancillary equipment must respond to central office or PBX ringing.

**RJ-13C and RJ-13W:** Are normally associated with one line of a key telephone system. They provide a bridged connection electrically behind the key-system line circuit to the tip, ring conductors, and to the A and A1 leads. The RJ-13C is surface or flush mounted for use with desk telephone sets while RJ-13W is for wall mounted telephone sets. These arrangements are generally used when the registered ancillary equipment does not require central office or PBX ringing to function properly.

**RJ-14C and RJ-14W:** Provide for bridged connections to the tip and ring conductors of two separate telephone lines. The RJ-14C is surface or flush mounted for use with desk telephone sets while the RJ-14W is for wall mounted telephone sets.

**RJ-15C:** Is a weatherproof jack arranged to provide single-line bridged connection to tip and ring. The RJ-15C can be arranged for surface- or flush mounting depending upon customer needs.

**RJ-16X:** Provides a single-line bridged tip and ring and is associated with -9 dBm (permissive) data arrangements that require mode indication for use with exclusion key telephone sets. The exclusion key telephone set requires a series jack, RJ-36X (described under 8-position jacks) as its normal means of connection.

**RJ-17C:** Provides a single-line bridged connection of tip and ring to special telephone sets or ancillary equipment (e.g. ECG machines) in hospital critical-care areas. Only registered equipment conforming to Article 517 of the 1978 National Electrical Code is permitted to connect to this jack arrangement. This jack differs from the RJ-11C in that tip and ring appear on pins 1 & 6 rather than 3 & 4.

**RJ-18C:** Provides a bridged connection of single-line tip and ring with make-busy leads M13 and MB1. When the registered equipment provides a contact closure between the MB and MB1 leads, a make-busy indication is transmitted to the network equipment busying out the line from further incoming calls. It's recommended that the busy indication (contact closure) be provided while the line is in the idle state in order to reduce the possibility of interfering with a call that is in the ringing or talking state. The RJ-18 EIC is surface or flush mounted for use with desk telephone sets.