**JACK SCHEMATICS**

**Circuit Types:** Jacks normally have through circuits, shunt circuits, and/or isolated switching circuits, either individually or in various combinations. The chart below shows schematics of 39 common jacks - many more combinations are possible, but these are the most commonly used. A basic description of the switching action of each jack accompanies each schematic.

**Military Identification:** Military specifications covering phone jacks use a special code to describe jack functions. Jack schematic descriptions are coded J-1 through J-13 (as appropriate) to coincide with Federal Item Identification Guides for Supply Cataloging. One or more groups of suffix numbers/letters identify isolated switching circuits used. Suffixes identify the switching by industry recognized notation, i.e., 1-A, 1-B, 1-C, 1-D, etc. See chart below.

<table>
<thead>
<tr>
<th>Notation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-A</td>
<td>One, SPST switching circuit. Also known as NO (normally open) or “make” circuit.</td>
</tr>
<tr>
<td>1-B</td>
<td>One, SPST switching circuit. Also known as NC (normally closed) or “break” circuit.</td>
</tr>
<tr>
<td>1-C</td>
<td>One, SPDT switching circuit. Also known as transfer or “break” before “make” circuit.</td>
</tr>
<tr>
<td>1-D</td>
<td>One, SPDT switching circuit. Also known as “make” before “break” circuit.</td>
</tr>
</tbody>
</table>

**NOTE:** Number indicates the quantity of circuit - 2-A means 2, A circuits. Terminals locations shown on jack schematics do not necessarily coincide with physical locations on jacks. Not all circuit types available on all jacks.

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**Diagram and Schematics**

- **I** Single open circuit. (J1.)
- **II** Single closed circuit, sleeve common. (J3.)
- **III** Single closed circuit. (J4.)
- **IV** Double open circuit. (J2.)
- **V** Single open circuit. Isolated switching “make” circuit. (J1-1-A.)
- **VI** Transfer circuit. (J5.)
- **VII** Tip closed, ring open. (J10.)
- **VIII** Tip closed, ring open (common to sleeve). (J6.)
- **IX** Single open circuit. Isolated switching “break” circuit. (J1-1B.)
- **X** Double closed circuit, ring common to sleeve. (J13.)
- **XI** Single closed. Isolated switching “make” circuit. (J4-1A.)
- **XII** Double closed circuit. (J7.)
- **XIII** Single closed circuit. Isolated switching transfer circuit. (J4-1C.)
- **XIV** Double closed circuit. Isolated switching “break” circuit. (J7-1B.)
- **XV** Double open circuit. Isolated switching transfer circuit. (J2-1C.)
- **XVI** Double open circuit. Isolated switching—separate “break” and make circuits (J2-1A-1B).
- **XVII** Single closed circuit Isolated switching “break” circuit. (J4-1B.)
- **XVIII** Single closed circuit—“make” before “break”. (J8.)
- **XIX** Single open circuit. Isolated switching transfer circuit. (J1-1C.)
- **XX** Double open circuit. Isolated switching “make” circuit. (J2-1A.)
- **XXI** Double open circuit. Isolated switching—separate “make” circuits on both tip and ring. (J2-2A.)
- **XXII** Double closed circuit. Isolated switching “make” circuit on ring spring. (J7-1A.)
- **XXIII** Single closed circuit plus “make” before “break”. Isolated switching—“make” before “break” circuit. (J8-1D.)
- **XXIV** Single open circuit. Isolated switching—separate transfer and “make” circuits. (J1-1A-1C.)
- **XXV** Single closed circuit. Isolated switching “break” circuit. Sleeve common to isolated switching circuit throw. (J4-1B.)

**Dimensions are for reference only**

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**Switchcraft**

SWITCHCRAFT, INC. 5555 N. Elston Ave. • Chicago, IL 60630
**JACK SCHEMATICS**

- **Single closed circuit.** Isolated switching—“make” before “break” circuit. (J4-1D).
- **Tip closed; ring open circuits.** Isolated switching—two “make” circuits and one “break” circuit. (J10-2A-1B).
- **Single open (tip) circuit and single closed (ring) circuit.** (J9).
- **Double jack, 2-conductors on each side.** Tip circuits cross shunted; common sleeve. (J12).

**WIRE-WRAPPING TERMINATIONS**

Switchcraft can build complete Jack Panel Assemblies with jacks, lamp jacks and switches with wire-wrapping terminals. If desired, components with solder lugs and wire-wrapping terminals can be installed in the same assembly.

**WIRE-WRAPPING TERMINAL DESIGN**

Jack springs with integral wire-wrapping terminals are made of special copper alloy for maximum work-life with excellent resistance to corrosion. Shank of terminal accommodates a maximum of three wire connections. Tini-Telephone® phone jacks, lamp jacks and switches with wire-wrapping terminals have slightly higher stack due to greater spacing required for wrapping tool access. Actuator springs and ground lug terminals are .704” long by .060” wide.

**WIRE-WRAPPING CONNECTIONS**

Use the chart below as a guide to recommended tools to be used with varying terminal thickness and wire gauges.

<table>
<thead>
<tr>
<th>Terminal Thickness (Inches)</th>
<th>Wire Gauge</th>
<th>Recommended Wire-Wrapping Tool (Gardner-Denver Co. Part Numbers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>.020 thru .032</td>
<td>22 &amp; 24</td>
<td>500131 18840</td>
</tr>
<tr>
<td>.016</td>
<td>24</td>
<td>500131 18840</td>
</tr>
<tr>
<td>.016 thru .032</td>
<td>26</td>
<td>37006 17611:2</td>
</tr>
</tbody>
</table>

**SPECIFYING NOTE:** Due to assembly variations containing components (solder lugs, wire-wrapping terminals, or both), these Jack Panel Assemblies are available on special order only. Contact Switchcraft.

**JACK MATING DATA**

- **NOTE:** See tables for jack/plug mating data