

# 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.

Notation	Meaning
1-A	One, SPST switching circuit. Also known as NO (normally open) or "make" circuit.
1-B	One, SPST switching circuit. Also known as NC (normally closed) or "break" circuit.
1-C	One, SPDT switching circuit. Also known as transfer or "break" before "make" circuit.
1-D	One, SPDT switching circuit. Also known as "make" before "break" circuit.

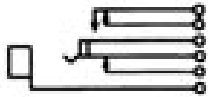
**NOTE:** Number indicates the quantity of circuit - 2-A means 2, A circuits. Terminals locations shown on jack schematics do not necessarily coincide with physical locations on jacks. Not all circuit types available on all jacks.

<p>Single open circuit. (J1.)</p>	<p>Single closed circuit, sleeve common. (J3.)</p>	<p>Single closed circuit. (J4.)</p>	<p>Double open circuit. (J2.)</p>	<p>Single open circuit. Isolated switching "make" circuit. (J1-1-A).</p>
<p>Transfer circuit. (J5.)</p>	<p>Tip closed, ring open. (J10).</p>	<p>Tip closed, ring open (common to sleeve). (J6.)</p>	<p>Single open circuit. Isolated switching "break" circuit. (J1-1-B).</p>	<p>Double closed circuit, ring common to sleeve. (J13).</p>
<p>Single closed. Isolated switching "make" circuit. (J4-1A).</p>	<p>Double closed circuit. (J7).</p>	<p>Single closed circuit. Isolated switching transfer circuit. (J4-1C).</p>	<p>Double closed circuit. Isolated switching "break" circuit. (J7-1B).</p>	<p>Double open circuit. Isolated switching transfer circuit. (J2-1C).</p>
<p>Double open circuit. Isolated switching—separate "break" and make circuits (J2-1A-1B).</p>	<p>Single closed circuit Isolated switching "break" circuit. (J4-1B).</p>	<p>Single closed circuit—"make" before "break". (J8).</p>	<p>Single open circuit. Isolated switching transfer circuit. (J1-1C).</p>	<p>Double open circuit. Isolated switching "make" circuit. (J2-1A).</p>
<p>Double open circuit. Isolated switching—separate "make" circuits on both tip and ring. (J2-2A).</p>	<p>Double closed circuit. Isolated switching "make" circuit on ring spring. (J7-1A).</p>	<p>Single closed circuit plus "make" before "break". Isolated switching—"make" before "break" circuit. (J8-1D).</p>	<p>Single open circuit. Isolated switching—separate transfer and "make" circuits. (J1-1A-1C).</p>	<p>Single closed circuit. Isolated switching "break" circuit. Sleeve common to isolated switching circuit throw. (J4-1B).</p>

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{\text{(mm)}}$

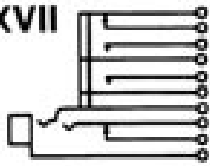
# JACK SCHEMATICS

**XXVI**



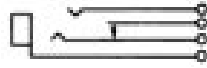
Single closed circuit. Isolated switching—"make" before "break" circuit. (J4-1D).

**XXVII**



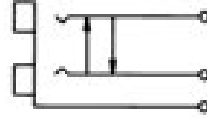
Tip closed; ring open circuits. Isolated switching—two "make" circuits and one "break" circuit. (J10-2A-1B).

**XXVIII**



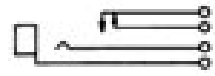
Single open (tip) circuit and single closed (ring) circuit. (J9).

**XXIX**



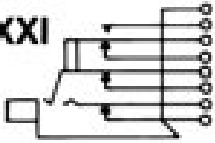
Double jack, 2-conductors on each side. Tip circuits cross shunted; common sleeve. (J12).

**XXX**



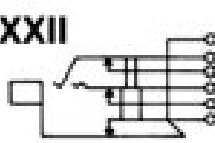
Single open circuit—"make" before "break". (J11).

**XXXI**



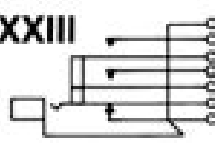
Tip closed; ring closed circuits. Isolated switching—"break" before "make" circuit.

**XXXII**



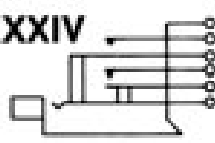
Double closed circuit. Separate sleeve "break" circuit.

**XXXIII**



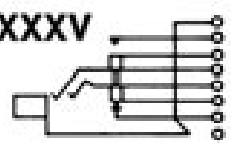
Single closed circuit. Isolated switching—Two "make" circuits.

**XXXIV**



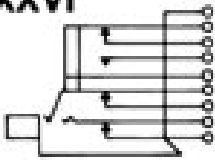
Single open circuit. Isolated switching—Two "make" circuits.

**XXXV**



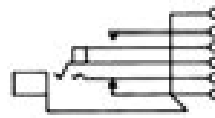
Double open circuit. Isolated switching—One "make" and one "break" circuit.

**XXXVI**



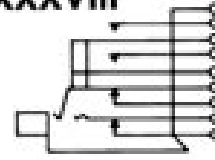
Double closed circuit. Isolated switching—One "make" and one "break" circuit.

**XXXVII**



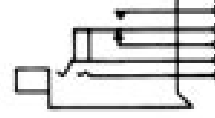
Tip closed; ring open circuits. Isolated switching—One "make" circuit.

**XXXVIII**



Double closed circuit. Isolated switching—Two "make" circuits.

**XXXIX**



Double open circuit. Isolated switching—"break" before "make" circuit.

## 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.

Terminal Thickness (Inches)	Wire Gauge	Recommended Wire-Wrapping Tool (Gardner-Denver Co. Part Numbers)	
		Use with 14B1-A Wrapping Bit	Wrapping Tool Sleeve
.020 thru .032	22 & 24	500131	18840
.016	24	500131	18840
.016 thru .032	26	37006	17611-2

**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

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{\text{(mm)}}$