

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.

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).

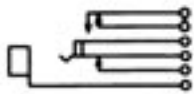
XXV

Single closed circuit. Isolated switching "break" circuit. Sleeve common to isolated switching circuit throw. (J4-1B).

DIMENSIONS ARE FOR REFERENCE ONLY Inch  
(mm)

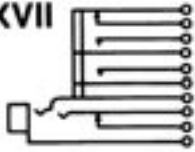
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XXVI



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

XXVII



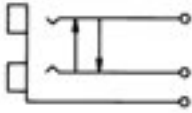
Tip closed; ring open circuits. Isolated switching—two "make" circuits and one "break" circuit. (J10-2A-1B).

XXVIII



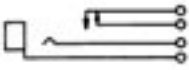
Single open (tip) circuit and single closed (ring) circuit. (J9).

XXIX



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

XXX



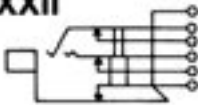
Single open circuit—"make" before "break". (J11).

XXXI



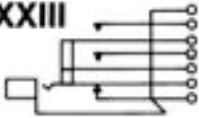
Tip closed; ring closed circuits. Isolated switching—"break" before "make" circuit.

XXXII



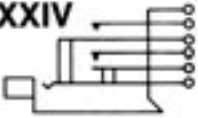
Double closed circuit. Separate sleeve "break" circuit.

XXXIII



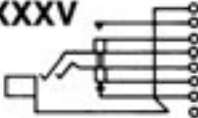
Single closed circuit. Isolated switching—Two "make" circuits.

XXXIV



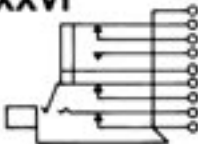
Single open circuit. Isolated switching—Two "make" circuits.

XXXV



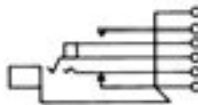
Double open circuit. Isolated switching—One "make" and one "break" circuit.

XXXVI



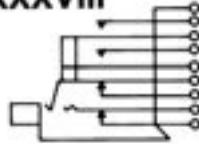
Double closed circuit. Isolated switching—One "make" and one "break" circuit.

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 Inch  
(mm)