Push-Button Switches

Audio Frequency Plugs & Jacks

Push-Button Switches

Consistent Product Reliability
EXUS, Incorporated, established in 1961, offers design and production of superior quality audio plugs, jacks and momentary push-button switches.

Nexus Connectors:
— specified in OEM headset applications where “breakaway-style” audio connectors are required
— the standard in military/commercial communication headset markets

Nexus Switches:
— strong, “tactile-feedback” feature
— designed for applications that require durable, reliable and cost-effective switching

Applications:
— Military
— Commercial Aviation Electronics
— Medical Products
— Telecommunications
— Simulation Controls
— Auto Racing
— Powerboat Racing
— Farm Equipment

NEXUS facilities and equipment include:
- CNC Machining
- Thermoset and Thermoplastic Molding Machines
- Stamping Presses
- Numerous Assembly Fixtures
- Heat Treating Equipment
- Special Plating Equipment
- CAD (Computer Aided Design)
- Tool Room, Testing Lab, Clean Room
- And other Special Proprietary Processes that are designed to manufacture dependable quality products.
Dedicated.

Customer Service

In-House Tooling

Press Work & CNC Machining

Molding

Testing Lab

Shipping Department

Experienced.

Reliable.
Count on Us for
Consistent Product Reliability!

Tel.: 203-327-7300      Fax: 203-324-7623    Email: salesinfo@nexus.com
www.nexus.com
50 Sunnyside Avenue
P.O. Box 10177
Stamford, Connecticut 06904-2177, USA
Commercial Telephone Plugs & Jacks
Four Conductor

**TP-120**

Four Conductor Telephone Plug
Mates with Nexus Series TJ-120, TJ-102 and TJ-101 jacks. One piece nickel plated brass contacts are integrally molded into plastic body.

**TP-120-7**

Four Conductor Telephone Plug
Mates with Nexus Series TJ-120, TJ-102 and TJ-101 jacks. For custom molding directly to cable. Same as TP-120 but without plastic shell.

**TP-120-5**

Four Conductor Telephone Plug
Mates with Nexus Series TJ-120, TJ-102, TJ-101 jacks. For custom molding directly to cable. Same as TP-120-7 but strain relief clip omitted.

**TJ-120**

Flanged Rear-Mounted Jack
Mates with Nexus Series TP-120, TP-101, TP-102, and TPSJ-101 plugs. Nickel plated beryllium contacts are anchored in a phenolic body.
Commercial Telephone Plugs & Jacks
Four Conductor

TJG-120 and TJS-120

Flanged Rear-Mounted Jacks with Switches
Mates with Nexus Series TP-120, TP-101 and TP-102 plugs. A fifth contact has been added to the TJ-120 design in a normally open circuit with the No. 1 contact to make the TJG-120. Insertion of a four conductor plug closes the No. 1-5 contact circuit. The TJS-120 is the same as TJG-120 except the fifth, or switching contact is normally in a closed circuit with the No. 1 contact. Insertion of a four conductor plug opens the No. 1-5 contact circuit.

Standard plugs and jacks are available for prompt shipment.

Suggested wiring sequences for telephone plugs and jacks are as follows:
For binaural headsets, wire the connector
— Contact #1 Microphone, high
— Contact #2 Left earphone
— Contact #3 Microphone, low
— Contact #4 Right earphone
— Contact #5 Earphones, low

For monaural headsets, wire the connector
— Contact #1 Microphone, high
— Contact #2 Earphones, high
— Contact #3 Microphone, low
— Contact #4 Earphones, low

Threaded Front-Mounted Jack
Mates with Nexus Series TP-120, TP-101 and TP-102 plugs. Same material and construction as the TJ-120. Jack housing is threaded for front mounting by screwing into threaded mounting hole or by inserting into front of panel and securing with nut and lockwasher from behind.

TJT-120

Threaded Front-Mounted Jack With Switches
Mates with Nexus Series TP-120, TP-101 and TP-102 plugs. A fifth contact has been added to the TJT-120 design in a normally open circuit with the No.1 contact to make the TJGT-120. Insertion of a four conductor plug closes the No. 1-5 contact circuit. The TJST-120 is the same as TJGT-120 except the fifth, or switching contact is in a normally closed circuit with the No. 1 contact. Insertion of a four conductor plug opens the No. 1-5 contact circuit.
Military Telephone Plugs & Jacks
Four Conductor

**Four Conductor Telephone Plug**
Mates with Nexus Series TJ-120, TJ-102 and TJ-101 jacks. One piece monel contacts integrally molded into glass filled nylon plastic.

**TP-101**  
(U-174/U, M9177/2-1)

**TP-102**  
(U-93A/U, M9177/1-1)

**Four Conductor Telephone Plug**
Mates with Nexus Series TJ-120, TJ-102 and TJ-101 jacks. Nickel plated brass contacts molded into plastic body. It accommodates larger diameter cable than the TP-101 or TP-120.

**TPSJ-101**

**TPSJ-101**

**TPSJ-101**

**TJ-102**
(U-92A/U, M9177/3-1)

**Plug-Switch-Jack Combination**
Mates with Nexus Series TJ-120, TJ-102 and TJ-101 jacks. The jack section of the connector mates with a MP-101 plug. Provides the design and electrical characteristics of the TP-101, combined with a manually operated DPDT slide switch and integral two conductor microphone jack.

**Four Conductor Telephone Jack**
Mates with Nexus Series TP-120, TP-101, TPSJ-101 and TP-102 plugs. Nickel plated beryllium contacts are anchored in a glass filled nylon body.
Military Telephone Plugs & Jacks
Four Conductor

**Four Conductor Telephone Jack**

**Telephone Jack Switch**
Mates with Nexus Series TP-120, TP-101 and TP-102 plugs. Combines a jack similar to TJ-102 with a momentary contact push-button switch and a clothing clip.

**TJT-102**
(M9177/4-1)

**TJS-102**
(U-94A/U, M9177/5-2)

**Assembly**

Four Conductor Telephone Jack
Military Telephone Plugs & Jacks
Five Conductor

TP-105
(U-384/U, M642/14-01)

Five Conductor Telephone Plug
Mates with Nexus Series TJ-105 and TJT-125 jacks. One piece monel contacts integrally molded into red plastic body.

TJ-105
(U385/U, M641/22-01)

Five Conductor Telephone Jack
Mates with TP-105 plug. Nickel plated beryllium copper contacts molded into red plastic body.

TJT-125

Threaded, Front-Mounted Five Conductor Telephone Jack
Mates with Nexus TP-105 plug. Similar material and construction as TJT-120 jack, but providing 5 contacts. Jack housing is threaded for front-mounting by screwing into mounting hole or by inserting into front of panel and securing by nut and lockwasher from behind. Threaded mounting is contact No. 5.

Miniature Series
Seven Conductor

Now Available
For more information visit our website
www.nexus.com
Military Telephone Plugs & Jacks
Five Conductor

Threaded, Front-Mounted Five Conductor Telephone Jack
Mates with TP-105 plug. Jack housing is threaded for front-mounting by screwing into mounting hole or by inserting into front of panel and securing by nut and lockwasher from behind. All five contact terminations from rear of jack, threaded mounting is not a contact. Nickel plated beryllium copper contacts molded into red plastic body.

Five Conductor Telephone Jack Switch
Mates with Nexus TP-105 plug. Combines a jack similar to TJ-105 with a momentary contact push-button switch and a clothing clip.
Military Audio Plugs
Five and Six Conductor

Five Conductor
Wire strain relief, crimp sleeve terminals.

AP-126 (M55116/2)
Six Conductor
Wire strain relief, crimp sleeve terminals.

AP-145 (M55116/3)
Five Conductor
Wire strain relief, solder cup terminals.

AP-146 (M55116/4)
Six Conductor
Wire strain relief, solder cup terminals.

AP-155 (M55116/5)
Five Conductor
Molded strain relief, crimp sleeve terminals.

AP-156 (M55116/6)
Six Conductor
Molded strain relief, crimp sleeve terminals.

AP-165 (M55116/7)
Five Conductor
Molded strain relief, solder cup terminals.

AP-166 (M55116/8)
Six Conductor
Molded strain relief, solder cup terminals.

Shielded Six Conductor
Same as AP-126 with provision to terminate shielded cable.

AP-136

Five Conductor
Mates with U-183/U and U-288/U. Use with molded rubber strain relief. AP-106 is the same as above except it has six conductors.

AP-105 (U-182 B/U)
Military Audio Plugs
Five and Six Conductor

Five Conductor
Mates with U-183/U and U-228/U. Coil spring strain relief. The AP-116 is the same as above except it has six conductors.

NOTE: All 5-conductor plugs on pages 7 and 8 mate with M55116/9, M55116/11 and M55116/13 jacks. All 6-conductor plugs on pages 7 and 8 mate with M55116/10, M55116/12 and M55116/14 jacks. Shells are glass filled nylon plastic with metal insert.
Military Plugs and Jacks
Biaxial Shielded/Six and Eight Conductor

**TP-106**

**Telephone Plug Biaxial Shielded**
**Six Conductor**
Mates with Nexus Series TJ-106 jacks.

**TJ-106**

**Telephone Jack Biaxial Shielded**
**Six Conductor**
Mates with Nexus TP-106 plug.

**TJ-106 PM**

**Telephone Jack Biaxial Shielded**
**Six Conductor Panel Mount**
Mates with Nexus TP-106 plug.

**TP-108**

**Telephone Plug Biaxial Shielded**
**Eight Conductor**
Mates with Nexus TJ-108 jack.
Military Plugs and Jacks
Biaxial Shielded/Six and Eight Conductor

**TJ-108**
Telephone Plug Biaxial Shielded
Eight Conductor
Mates with Nexus TP-108 plug.

**TJ-108 PM**
Telephone Jack Biaxial Shielded
Eight Conductor Panel Mount
Mates with Nexus TP-108 plug.

Consistent Product
Reliability
Military Jack-Switch Combinations
Biaxial Shielded/Six & Eight Conductor/ with Clothing Clip

Nexus, Inc. developed these connectors at the request of the United States Army to meet special project requirements of Tempest. Nexus has the engineering capability to design connectors and electro-mechanical devices to meet special applications. We welcome your inquiries.
Military Microphone Plugs and Jacks
Two Conductor

Two Pin Microphone Plug

Two Conductor Microphone Jack
Mates with Nexus MP-101 two conductor plug. Nickel plated beryllium copper contacts assemble into nylon body.

Two Conductor Microphone Locking Jack
Mates with Nexus MP-101 two conductor plug. Similar to MJ-101 jack in electrical and material characteristics, but with spring-actuated locking design and manual button release.

Two Conductor Microphone Jack
Military Microphone Plugs and Jacks
Two Conductor

**MJ-122**
**(JJ-055)**

**Two Conductor Microphone Jack**

**MJ-132**
**(JJ-055)**

**Two Conductor Microphone Jack**
Identical to MJ-122 except used with smaller diameter cable.

Facilities
Located in Stamford, Connecticut, USA
Military Microphone Plugs and Jacks
Three Conductor

Microphone Plug, Three Conductor
Mates with Nexus MJ-103 microphone jack three conductor. Nickel plated beryllium copper and brass contacts assemble into nylon body.

Microphone Locking Jack, Three Conductor
Mates with Nexus MP-103 microphone plug, three conductor. Nickel plated beryllium copper contacts, spring actuated locking design with manual button release, assemble into nylon body.

Microphone Jack, Three Conductor
Mates with Nexus MP-103 microphone plug, three conductor. Same as MJ-103 but without locking contacts. Nickel plated beryllium contacts assemble into nylon body.

Three Conductor Jack
Special three conductor jack, nickel plated contacts assemble into nylon body.
Military Microphone Plugs and Jacks
Three Conductor

MJS-103

Microphone Jack Switch
Functions as a selector switch to choose either a boom microphone or a gasmask microphone by use of the switch lever. Mating connectors are two Nexus MP-103 plugs and one MJ-103 locking jack. This switch will also function with Nexus MP-102 and MJ-102 if the third circuit is not required.

New Line of Miniatures

Miniature Series Seven Conductor

For more information visit our website www.nexus.com

Machining Capabilities
Military Plugs and Jacks
Seven Conductor

Seven Conductor, Watertight Breakaway Plug
Mates with Nexus AJ-107 jack. A field replaceable connector designed to function in extremely severe environments.

Seven Conductor, Watertight Breakaway Jack
Mates with Nexus AP-107 plug. Designed to meet severe environmental conditions, it is field replaceable.

HARNESS DATA

<table>
<thead>
<tr>
<th>NEXUS PART NUMBER</th>
<th>CABLE HOLDER PART NUMBER</th>
<th>FIGURE BELOW</th>
<th>CABLE SEAL</th>
<th>CABLE (6 CONDUCTOR) WITH SHIELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP-107XLS AJ-107XLS</td>
<td>AP-107-3BXL AJ-107-3GXL</td>
<td>B</td>
<td>AP-107-27</td>
<td>.172 D/A .158 D/A OVER INSULATION MIL-C-55668</td>
</tr>
</tbody>
</table>

FOR NUMBER 4 ONLY ALL OTHER NUMBERS SHALL BE FIGURES "A" OR "B" OR "C".

CONDUCTOR LOCATION NUMBERS ON CABLE HOLDER NUMBERS CLOCKWISE FOR PLUG (BLUE CABLE HOLDER) NUMBERS COUNTERCLOCKWISE FOR JACK (GREEN CABLE HOLDER)

Figures A, B and C
**In-Line Multi-Purpose Switch**
An in-line push button switch that is adaptable to a number of arrangements.

**Push-Button Bellows Switch, Watertight**
Used in areas requiring a watertight push-button switch exposed to extreme environmental conditions. Approved by U.S. Army Tank-Automotive Material Readiness Command.

**SS-402 (8378567)**

**In-Line Multi-Purpose Switch with Clip**
An in-line push button switch that is adaptable to a number of arrangements.
NEXUS Push-Button Series NX Switches

TYPES OF ADAPTERS

<table>
<thead>
<tr>
<th>TYPE A</th>
<th>TYPE B</th>
<th>TYPE C</th>
<th>TYPE E</th>
</tr>
</thead>
</table>

- TYPE F
- TYPE G
- TYPE H

SERIES 200
Standard

SERIES 300
Dustproof
NEXUS Push-Button Series NX Switches

SPECIFICATIONS:

**AC Rating:**
- 10 amps at 115 vac (Resistive load)
- 5 amps at 115 vac (Inductive load)
- 3 amps at 115 vac (Lamp load)

**DC Rating:**
- 10 amps at 28 vdc (Resistive load)
- 5 amps at 28 vdc (Inductive load)
- 3 amps at 28 vdc (Lamp load)

**Type 7 Contact Arrangement:** Ratings are one half amperage

**Mechanical Life:** 500,000 cycles

**Action:** Momentary snap or push-pull (as specified)

**Plunger Travel:** .085 inch (approx.)

**Operating Force:**
- Ser. 20 & 30: 3 to 5 pounds momentary
- ½ to 2 pounds push-pull
- Ser. 22 & 32: 2 to 3 pounds

**Weight:** .050 pound maximum

**Case:** Aluminum alloy, 2001 - T3, anodized in accordance with MIL-A-8625

**Plunger:** Glass filled nylon

**Body:** Diallyl phthalate in accordance with MIL-M-14

**Terminals:** Threaded 2-56 NC-2B

**Terminal Hardware:** Solder-type wire terminals, with terminal mounting screws and lockwashers, supplied with each switch

**Mounting:** Basic switch supplied with ½-32 UN-2B nut and internal tooth lockwasher. Switch with mounting adapter C, F, G or H supplied with 5/8-24 UNEF-2B nut and internal tooth lockwasher.

**Special:** Additional types of mounting, button styles, colors, and other variations are available on special order.

<table>
<thead>
<tr>
<th>CONTACT ARRANGEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUTTON STYLES</td>
</tr>
</tbody>
</table>

1. **SWITCHES WITHOUT ADAPTERS** — The button height dimension shown for both Series 300 switches is taken from top of rubber boot to top of button. Button numbers 1, 3 (push-pull), and 5 is for the Series 300 dustproof switches. The only button available for Series 200 switches is the Number 2. The button height dimension is taken from the top of the housing to the top of the button.

2. **SWITCHES WITH ADAPTERS** — The button height dimension shown for both series of switches is taken from top of adapter to top of button. Button numbers 1, 3 (push-pull), and 5 is for the Series 300 dustproof switches. Buttons 2, 6 and 8 are for the Series 200 standard switches.
## How To Order

**SWITCH SERIES**
- 20 - Standard momentary or push-pull switches
- 22 - Standard switches with 2 - pound operating force
- 30 - Dustproof momentary or push-pull switches
- 32 - Dustproof switches with 2-pound operating force

**ADAPTER TYPE**
- O - Basic switch (no adapter)
- A - Switch with MIL type A adapter
- B - Switch with MIL type B adapter
- C - Switch with MIL type C adapter
- D - Switch with MIL type D adapter
- E - Switch with MIL type E adapter
- F - Switch with MIL type F adapter
- G - Switch with MIL type G adapter
- H - Switch with MIL type H adapter

**ADAPTER COLOR**
- B - Standard color, black
- R - Red
- C - Clear metal (aluminum)
- O - Without adapter

**CONTACT ARRANGEMENTS**
1. SPNO - Single pole, normally open
2. SPNC - Single pole, normally closed
3. 2-CIR - Two circuit
4. 3-TNO - Three terminal, normally open
5. 3-TNC - Three terminal, normally closed
6. SPDT - Single pole, double throw
7. DPDT - Double pole, single throw, normally open

**BUTTON STYLE**
Numbers 1 through 6, see Button Styles on page 19.

**BUTTON COLOR**
- B - Standard color, black
- R - Red
- G - Gray
- W - White

---

### Conversion Table - MIL-S-8805/3 Type Numbers and Nexus Equivalents

<table>
<thead>
<tr>
<th>MOUNTING</th>
<th>SWITCH ACTION</th>
<th>BUTTON COLOR</th>
<th>CONTACT 1</th>
<th>CONTACT 2</th>
<th>CONTACT 3</th>
<th>CONTACT 4</th>
<th>CONTACT 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>MOMENTARY</td>
<td>Black</td>
<td>M25089-1A</td>
<td>M30140-1B</td>
<td>M30140-1B</td>
<td>M30140-1B</td>
<td>M30140-1B</td>
</tr>
<tr>
<td>B</td>
<td>MOMENTARY</td>
<td>Black</td>
<td>M25089-1B</td>
<td>M30165-1B</td>
<td>M30283-1B</td>
<td>M30283-1B</td>
<td>M30283-1B</td>
</tr>
<tr>
<td>C</td>
<td>MOMENTARY</td>
<td>Black</td>
<td>M25089-1C</td>
<td>M30165-1C</td>
<td>M30283-1C</td>
<td>M30283-1C</td>
<td>M30283-1C</td>
</tr>
<tr>
<td>D</td>
<td>PUSH-PULL</td>
<td>Black</td>
<td>M25089-1D</td>
<td>M30165-1D</td>
<td>M30283-1D</td>
<td>M30283-1D</td>
<td>M30283-1D</td>
</tr>
<tr>
<td>E</td>
<td>MOMENTARY</td>
<td>Black</td>
<td>M25089-1E</td>
<td>M30165-1E</td>
<td>M30283-1E</td>
<td>M30283-1E</td>
<td>M30283-1E</td>
</tr>
<tr>
<td>F</td>
<td>MOMENTARY</td>
<td>Black</td>
<td>M25089-1F</td>
<td>M30165-1F</td>
<td>M30283-1F</td>
<td>M30283-1F</td>
<td>M30283-1F</td>
</tr>
<tr>
<td>G</td>
<td>PUSH-PULL</td>
<td>Black</td>
<td>M25089-1G</td>
<td>M30165-1G</td>
<td>M30283-1G</td>
<td>M30283-1G</td>
<td>M30283-1G</td>
</tr>
<tr>
<td>H</td>
<td>MOMENTARY</td>
<td>Black</td>
<td>M25089-1H</td>
<td>M30165-1H</td>
<td>M30283-1H</td>
<td>M30283-1H</td>
<td>M30283-1H</td>
</tr>
</tbody>
</table>

For switches with configurations and characteristics covered by MIL-S-8805/3, use the following table to convert from MIL to Nexus part numbers. Order the Nexus switch number shown in BOLD FACE below the MS25089 number. For white buttons, substitute W for B in the Nexus part number.
Miniature Series
Seven Conductor

AP-117OM

Seven Conductor,
Miniature Waterproof Plug
Over mold version, solder terminals, mates with all versions of the AJ-117.

AJ-117OM

Seven Conductor,
Miniature Waterproof Jack
Over mold version, solder terminals, mates with all versions of the AP-117.

AP-117BR

Seven Conductor,
Miniature Waterproof Plug
Wire strain relief and solder terminals, .148" max cable diameter, mates with AJ-117BR, AJ-117BRXL and AJ-117OM.

AJ-117BR

Seven Conductor,
Miniature Waterproof Jack
Wire strain relief and solder terminals, .148" max cable diameter, mates with AP-117BR, AP-117BRXL and AP-117OM.
NEW LINE
OF MINIATURES!

Miniature Series
Seven Conductor

Seven Conductor,
Miniature Waterproof Plug
Wire strain relief and solder terminals, .250” max cable diameter, mates with AJ-117BRXL, AJ-117BR and AJ-117OM.

Seven Conductor,
Miniature Waterproof Jack
With locking ring, wire strain relief and solder terminals, .250” max cable diameter, mates with AP-117LR-AL.

Seven Conductor,
Miniature Waterproof Plug
With locking ring, wire strain relief and solder terminals, .250” max cable diameter, mates with AJ-117LR-AL.

Seven Conductor,
Miniature Waterproof Jack
With locking ring, wire strain relief and solder terminals, .250” max cable diameter, mates with AP-117LR-AL.
Miniature Series
Seven Conductor

NEW LINE
OF MINIATURES!

AJ-117PLR

Seven Conductor, Miniature Waterproof Jack
Panel mount from rear of panel, with locking ring, solder terminals, mates with AP-117PLR.

AP-117PLR

Seven Conductor Miniature Waterproof Plug
Over mold plug with locking ring, solder terminals, mates with AJ-117PLR.

AJ-117PM

Seven Conductor, Miniature Waterproof Jack
Panel mount from front of panel, solder terminals, mates with all versions of the AP-117. Nut and lockwasher are included.

AJ-117PMDC

Seven Conductor, Miniature Waterproof Jack
Panel mount from rear of panel, solder terminals, mates with all versions of the AP-117.
Introducing Miniature Break-Away Waterproof 10 Pin Connectors

Same characteristics as larger connectors but SMALLER

NEXUS
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