Established in 1946, Switchcraft is a leading manufacturer of connectors, jacks, plugs, molded cable assemblies, patchbays, and switches. In addition to our line of over 5000 standard products, with thousands of variations, we also specialize in quick-turn, low-volume, custom-engineered products. Our products are used in a wide variety of industries including medical, lighting, GPS, process control, transportation, communications, security, military / defense, broadcast and pro audio.

Switchcraft is proud to be a U.S. manufacturer. We have over 185,000 sq. ft. in our Chicago facility which supports our electronic and electromechanical component operations. Nearby, our 35,000 sq. ft. Conxall facility specializes in custom cable assembly manufacturing. With an on-site tool room and 3D design capabilities, we provide the fastest, most efficient response to your project’s custom needs.

A Reputation Built on Quality
At Switchcraft quality is of the utmost importance. We blend old-world craftsmanship and value, with high technology precision, through innovative manufacturing techniques. Switchcraft builds and tests products to meet the demands of worldwide approval agencies including UL, CSA, VDE, Semko, Nemko, Mil-Spec and IEC IP66, IP67, IP68 NEMA 250 (6P)

The Design is the Difference
Our designs are known for their durability, reliability and often become industry standards. Effective communication between our engineers and our customers throughout the design phase leads to a product that is customized to precisely fit your application. Innovation in design, creative use of materials, and CNC/EDM capabilities including prototype tooling, combine to make Switchcraft products unique.

Engineering Excellence
Advanced CAD capabilities enable Switchcraft engineers to create 3D solid models, as well as SLA and SLS prototypes. Once the design is approved, we can move directly from CAD to rapid prototypes made on site to manufacturing, shortening the production cycle and ensuring the integrity of the design.

On the Cutting Edge of Quality
Switchcraft quality components begin with quality piece parts. As a vertically-integrated company, we produce most of the components we use in-house to control quality and delivery. We hold all of our suppliers to the same high standards we have set for ourselves, constantly evaluating and amending our select list of certified suppliers, based upon their ability to consistently deliver quality, value and service.

Consistently Excellent
We monitor and maintain consistent manufacturing performance. The perfect blend of top notch equipment, streamlined production procedures, use of SPC standards and the dedication of our experienced, talented personnel are reflected in each and every product we manufacture... each and every time.
Capabilities

Extensive in-house testing facilities provide quick, accurate results. Our environmental test lab is equipped to analyze and measure salt spray and humidity resistance, life cycle, compatibility with military and commercial parameters, tensile strength, hi-pot testing, shock and vibration. Our model shop boasts molding, CNC milling and drilling machines, grinders, saws and lathes for rapid prototyping.

Engineering Capabilities

- Full staff of design engineers in Chicago and Villa Park, IL locations
- Full use of modeling and simulation software, for electronic and mechanical design
- Ability to provide rapid prototypes quickly after initial design concepts are completed
- Test lab and model shop on site for product development

Engineering Test Capabilities

Testing Capabilities for Electrical Properties
- Insulation resistance
- Breakdown voltage
- Contact resistance
- Return losses
- Frequency response measurement

Mechanical Properties
- Force testing
- Life cycle testing
- Low level vibration

Environmental Testing
- Thermo cycling
- Salt spray
- Humidity vs. temperature testing
- NEMA 250 (6P) - IP 66/ 67/ 68

Production Capabilities

Molding
- 12 to 140 ton presses
- Injection molding, insert molding and overmolding
- Multi-cavity or runner-less molding
- More than 70 engineered plastics
- Mold design, mold making and mold repair

Stamping
- High speed Bruderers
- Minster and Havir presses
- In die monitoring ensures quality and die protection

Machining Centers- CNC and Swiss

In-house Electroplating

Assembly
- Automated, semi-automated, and hand assembly
- Assembly fixtures built in house
- Full manufacturing engineering capabilities

Quality Assurance Team
Custom products

Can’t find exactly what you are looking for in our standard product offering? Contact us to start creating your custom solution! A strong group of engineers and a vertically integrated manufacturing facility make Switchcraft and Conxall your logical choice for custom products. We can transform your product ideas into reality.

We manufacture many customized and fully custom products. Some examples are:

- Panel connectors with flex circuits
- Wave soldering to panel mount connectors
- Custom assembly and wiring
- Custom mounted and wired product assemblies
- Wide selection of mold compounds for molded color products
- Molded ends for non-Switchcraft and Conxall products
- Fully molded units with connectors encapsulated into the assembly

Please contact us and we will be happy to help you fulfill your customized product needs.
### Con-X
- **Improved Environmental Protection:**
  - IEC IP68 NEMA 250 (6P) when mated
- **Applications:**
  - Medical, lighting, GPS, safety & security, marine and general industrial electronic applications
- **Characteristics:**
  - Coupling Ring OD: 5 sizes between 0.532” OD-1.291” OD
  - Number of Contacts: 2 thru 31
  - Contact Sizes: #12, #16, #20, #22 & #26
  - Max Cable Diameter: 0.560”
  - Electrical Rating: Up to 23.0A, 600V AV / DC
- **Features & Benefits:**
  - Custom overmolded cable assemblies available
  - Gold plated contacts standard
  - Threaded coupling metal shells
  - Available as field assembled or factory overmolded backshells
  - Bayonet quick mate coupling nuts - round or winged available in all sizes
  - Easy, no soldering connector wiring with crimp type contacts

### Shielded Con-X
- **Improved Environmental Protection:**
  - IEC IP68 NEMA 250 (6P) when mated
- **Applications:**
  - Medical, communications, lighting and general industrial electronic applications
- **Characteristics:**
  - Coupling Ring OD: Two sizes- 0.710” OD & 0.875” OD
  - Number of Contacts: 2 thru 12
  - Contact Sizes: #16 & #20
  - Max Cable Diameter: 0.400”
  - Electrical Rating: Up to 13.0A, 600V AC / DC
- **Features & Benefits:**
  - Custom overmolded cable assemblies available
  - Gold plated contacts standard
  - Caps available - rated IP68 NEMA 250 (6P)
  - Easy, no soldering connector wiring with crimp type contacts

### EN3® / EN2
- **Improved Environmental Protection:**
  - IEC IP68 NEMA 250 (6P) when mated or covered
- **Applications:**
  - Medical, food service, transportation, GPS, marine and general industrial electronic applications
- **Characteristics:**
  - Coupling Ring OD: Two sizes 0.532” OD & 0.700” OD
  - Number of Contacts: 2 thru 18
  - Contact Sizes: #16, #20, #22 & #26
  - Max Cable Diameter: 0.380”
  - Electrical Rating: Up to 13.0A, 600V AC / DC
- **Features & Benefits:**
  - Gold plated contacts standard
  - Caps available- rated IP68 NEMA 250 (6P)
  - Easy, no soldering connector wiring with crimp type contacts

### Mil-E-Qual®
- **Improved Environmental Protection:**
  - IEC IP67 when mated*
- **Applications:**
  - Instrumentation, lighting fixtures, power transmission for alternative energy, outdoor waterproof applications and general industrial electronic applications
- **Characteristics:**
  - Coupling Ring OD: Nine sizes between 0.825” OD-2.1” OD
  - Number of Contacts: 2 thru 37
  - Contact Sizes: #12 & #16
  - Max Cable Diameter: 0.840”
  - Electrical Rating: Up to 23.0A, 600V AC / DC
- **Features & Benefits:**
  - Gold plated contacts standard
  - Caps available
  - Available as field assembled or factory overmolded backshells
  - Silver plated contacts. Gold available
  - Plastic Mil-C-5015 equivalent and interchangeable

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*When using molded cable
## Audio Connectors

<table>
<thead>
<tr>
<th>Connector Type</th>
<th>Options</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>XLR (Q-G®)</strong></td>
<td>3.5mm, S-Video, PS/2 (6 pin din), Firewire 400 / 800, BNC, USB, 9 or 15 pin DSUB, LC, SC, and ST Fiber Optic, TOSLINK, RJ45, CAT5e and CAT6, XLR (E Series), 1/4” Locking Jack, F Type Connector, Toggle Switch, Push Button Switch, Rocker Switch, HDMI</td>
<td>Professional audio, instrumentation and general industrial electronic applications</td>
</tr>
<tr>
<td><strong>Mini XLR (Tini “QG”®)</strong></td>
<td>3 thru 8 contacts, Max Cable Diameter: 0.240”, Electrical Rating: Up to 15A, 125V AC</td>
<td>Audio &amp; microphone cabling, test equipment, instrumentation, audio consoles, sound reinforcement and general industrial electronic applications</td>
</tr>
<tr>
<td><strong>Data Connectors (EH Series)</strong></td>
<td>3.5mm (1/8”), S-Video, PS/2 (6 pin din), Firewire 400 / 800, Phono, BNC, USB, 9 or 15 pin DSUB, LC, SC, and ST Fiber Optic, TOSLINK, RJ45, CAT5e and CAT6, XLR (E Series), 1/4” Locking Jack, F Type Connector, Toggle Switch, Push Button Switch, Rocker Switch, HDMI</td>
<td>Safety &amp; security, audio, broadcast, instrumentation and general industrial electronic applications</td>
</tr>
<tr>
<td><strong>Additional Connectors</strong></td>
<td>3 thru 8 contacts, Max Cable Diameter: 0.56” max., Electrical Rating: Up to 50A, 1500V AC</td>
<td>Professional audio, instrumentation and general industrial electronic applications</td>
</tr>
</tbody>
</table>

**XLR (Q-G®)**
- Recognized as the industry standard
- Unsurpassed durability with a choice of finishes and contact plating
- Exclusive quick ground system allows additional grounding options for specific applications
- Rugged design and high quality material
- Female connectors have latch lock feature to hold connectors firmly together
- Cable mount, panel mount, right angle, wall mount and XLR jackfields available

**Mini XLR (Tini “QG”®)**
- Number of Contacts: 3 thru 7
- Max Cable Diameter: 0.328”
- Electrical Rating: Up to 15A, 125V AC

**Data Connectors (EH Series)**
- Number of Contacts: 3 thru 8
- Max Cable Diameter: 0.240”
- Electrical Rating: Up to 5A, 125V AC
- Custom overmolded cable assemblies available

**Additional Connectors**
- Number of Contacts: 3 thru 8
- Max Cable Diameter: 0.56” max.
- Electrical Rating: Up to 50A, 1500V AC
- Custom overmolded cable assemblies available
## JACKS & PLUGS

### Power Jacks & Plugs
- Medical, portable devices and general industrial electronic applications

### 1/4" Jacks & Plugs
- Guitar plugs, military, aviation and communications applications

### 2.5mm & 3.5mm Jacks & Plugs
- Audio, medical, instrumentation and general industrial electronic applications

### Phono Jacks & Plugs
- Semi-permanent connection in audio, video and general industrial electronic applications

### Additional Sizes
- Communications, instrumentation, medical, audio, and general industrial electronic applications

### Jacks
- **Wide range of DC power jacks including straight and right angle, PC mount, plastic or metal housings, & solder terminals**
  - Variety of center pin size options available
  - Sealed power jacks available with an IP 68/NEMA 250 (6P) rating, caps also available

### Plugs
- **Wide range of DC power plugs including red or black plastic handles & solder terminals**
  - Variety of center pin size options available
  - Sealed power Plugs available with an IP 68/NEMA 250 (6P) rating

### Life:
- **Commercial**: 5,000 insertion / withdrawal cycles, minimum.
- **Military**: Up to 10,000 insertion / withdrawal cycles, minimum.

### Insertion Force:
- **Commercial**: 3 lb. max **
- **Military**: 6.6 lb. max **

### Withdrawal Force:
- **Commercial**: 4 ounce min **
- **Military**: 0.22 lb. min **

### Dielectric Withstanding Voltage:
- **Commercial**: Up to 500V AC
- **Military**: Up to 250V AC

### Contact Rating:
- **Commercial**: Up to 3A, 125V AC
- **Military**: Up to 2A, 48V DC

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### Available Jacks & Plugs
- 0.101" Micro Jacks & Plugs
- 0.141" Jacks & Plugs
- 0.206" Jacks & Plugs
- 0.176” Bantam TT Jacks & Plugs
- 2 & 3 Conductor Specialty High Temperature Jacks & Plugs
- Audio and video patchbays also available

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### Contact Information
- Please visit our website for mating jack / plug pins: [www.switchcraft.com](http://www.switchcraft.com)
# Molded Cable Assemblies

## Custom Molded Harsh Environment Cables
- Applications: Lighting, medical, GPS data, alternative energy, instrumentation, safety & security and general industrial electronic applications
- Features / Benefits:
  - Permanent and service free termination without the risk of cable pull out
  - Weather tight reliability
  - Available sealed or non-sealed - IEC IP67 or IP68 NEMA 250 (6P)
  - Custom made to customer specifications
  - EMI / RFI Shielded versions available
  - Right angle and straight overmolds
  - Ability to terminate non-Switchcraft and Conxall ends
  - Quick disconnect option available in-line or panel mount
  - Custom molded ends available

## Sensor Cables (Sensor Link)
- Applications: Lighting, GPS data, alternative energy, sensor connections, instrumentation, safety & security and general industrial electronic applications
- Features / Benefits:
  - IEC IP67 or IP68 NEMA 250 (6P)
  - Available in five different overmolded cable assembly varieties
  - Meets or exceeds the requirements of UL, CSA, NEMA, ANSI and IEC
  - The overmolding process provides strain relief for flexing operations
  - EMI / RFI Shielded versions available
  - Right angle and straight overmolds
  - Threaded coupling
  - Plastic and metal shells
  - Die blocks and multi-port boxes available

## Standard End Molded Cable Assemblies
- Applications: Instrumentation, medical, aviation, GPS data, communications and general industrial electronic applications
- Features / Benefits:
  - Multiple overmold options
  - Custom made to customer specifications
  - Integrated flex relief
  - Ability to terminate non-Switchcraft and Conxall ends
  - Audio and video patch cords also available

## Pendant Switch Cables
- Applications: Medical & remote equipment handling
- Features / Benefits:
  - Available with or without flex relief
  - Available sealed or non-sealed
  - Available with different circuits, various colors and a wide variety of opposite cable ends
  - We will build assemblies on cable furnished by you or on cable we purchase to your specifications. Jacket must have temperature of 60° C minimum
  - Max cable diameter of 0.270" with out flex relief & 0.170" with flex relief

<table>
<thead>
<tr>
<th>Coupling Ring OD:</th>
<th>0.532” OD-1.98” OD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Sizes:</td>
<td>#12, #16, #20, #22 &amp; #26</td>
</tr>
<tr>
<td>Number of Contacts:</td>
<td>2 thru 37</td>
</tr>
<tr>
<td>Connector Electrical Rating:</td>
<td>Up to 23.0A, 600V AC / DC</td>
</tr>
<tr>
<td>Overmolded Cable Diameter:</td>
<td>Con-X - 0.545” OD MAX Shielded - 0.380” OD MAX EN3 - 0.380” OD MAX</td>
</tr>
</tbody>
</table>

| Number of Contacts: | 2 thru 19 |
| Contact Sizes: | #10, #14, #20 & #22 |
| Electrical Rating: | Up to 30A, 600V AC / DC |
| Cable Length: | 3-12 Ft. (Custom lengths available) |
| Operating Ambient: | -20° to 105° |
| Thread Sizes: | 8mm, 12mm, 1/2" - 20, 7/8" - 16, 1" - 16, 1 1/8" - 16 & 1 3/8" - 16 |

| Available Ends: | 0.097” plugs, 0.141” 1/4”, 3.5mm Y junction / splitter DC power jacks & plugs DIN Phono Shielded mini XLR Male & female 3-8 conductor mini XLR MOD plugs .281 plugs |
| Cable Specifications: | Standard Unshielded- Type W-1230, other options available |
| Termination options: | Wire stripped and tinned Wire blunt cut 2 conductor 1/4" plug 3 conductor 1/4" plug 2 conductor Phono Receptacle 2 conductor tini-plug Tini “QG™” male / female DIN 3-8 pin male Locking power plug Locking 1/4” plug assembly RCA plug USB RJ45 |