# Panel Potentiometer

## P260 / P261 Series

TT Electronics PRO AUDIO

TT Electronics

**Features:**

- Sealed / dust proof
- 1,000,000 cycle life
- Rotary switch option
- Detent and wire lead options
- Multiple gangs available
- **Meets MIL-PRF-94 requirements**

RoHS compliant

**Description:**

12.7mm (1/2") Square, Rotary Potentiometer, with metal shaft and bushing. Options include audio and linear resistance tapers; flatted and slotted shafts

**Applications:**

- Electric Guitars, Amplifiers, Mixers
- Drum Machines, Synthesizers

## Model Styles Available

| | |
|---|---|
| Side Adjust, PCB Leads, Potentiometer Module (Up to 6 gangs) | P260P |
| Side Adjust, PCB Leads, with Rotary Switch Module (Up to 5 gangs) | P260S |
| Side Adjust, PCB Leads, with Detent Module (Up to 6 gangs) | P260D |
| Top Adjust, PCB Leads, Potentiometer Module (Up to 2 gangs) | P260T |
| Potentiometer Module with Wire Leads (Up to 6 gangs) | P260L |
| Potentiometer Module with Ribbon Cable (Up to 6 gangs) | P260R |
| Side Adjust, Solder Lug Leads, Potentiometer Module (Up to 6 gangs) | P261P |
| Side Adjust, Solder Lug Leads, with Rotary Switch Module (Up to 5 gangs) | P261S |
| Side Adjust, Solder Lug Leads, with Detent Module (Up to 6 gangs) | P261D |

## Electrical Characteristics

$T_A$ = 25°C unless otherwise noted

| | |
|---|---|
| Resistance Range | 500-1M (for "B" taper), 2K-1M (for other tapers) |
| Standard Resistance Tolerance | ±10% |
| Residual Resistance, Maximum | 2 Ω |
| Resistance Taper | Audio ("A", "C", "D"), Linear ("B") see note 3 |
| Maximum Operating Voltage | 350 Vac |
| Rated Power | 0.5W ("B" taper), 0.25W (other tapers) |
| Dielectric Strength | 1,500 Vac, sea level |
| Nominal Electrical Travel | 265° |
| Insulation Resistance | 1,000 MΩ |
| Gang Error (Dual Unit) | ±3dB (-40dB to 0dB) |

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## Switch Characteristics

$T_A$ = 25°C unless otherwise noted

| | |
|---|---|
| Switch Circuit | SPDT |
| Contact Resistance, Maximum | 150 mΩ |
| Rated Power | 0.5 A at 30 Vdc |
| Switch Life | 50,000 cycles |

## Mechanical Characteristics

$T_A$ = 25°C unless otherwise noted

| | |
|---|---|
| Mechanical Travel (Rotational angle) | 295° ± 10° |
| Rotational Torque, Maximum | 108 gf.cm (36 gf.cm in each additional gang) |
| Rotational Stop Strength | 2,880 gf.cm |
| Detent Torque, Minimum | 144 gf.cm |
| Nut Tightening Strength | 8 kgf.cm minimum |
| Rotational Life | 1,000,000 cycles |

## Environmental Characteristics

$T_A$ = 25°C unless otherwise noted

| | |
|---|---|
| Operating Temperature | -55°C to +125°C |
| IP Rating | Sealed = IP66<br>Dust proof = IP50 |
| Soldering Condition | Wave Soldering 260°C maximum for 1-3 seconds<br>Hand Soldering 300°C maximum for 3 seconds |
| RoHS | Please refer to TT Electronics Website |
| REACH | Please refer to TT Electronics Website |

## Packaging

| | |
|---|---|
| Standard Packaging | Plastic Trays |
| Hardware: A (3.2mm) Shaft | Lockwasher and Mounting Nut |
| B (6.35mm) Shaft | Flat Washer, Lockwasher, and Mounting Nut |

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## Ordering Information

| P260 | D | - | D | 2 | 1 | A | F | 1 | C | B | 100K |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Part Family**
P260 - PC Pins, Wires, or Ribbon Cable
P261 - Solder Lugs
(only P, S, and D styles)

**Style**
P - Potentiometer
S - with Switch
D - with Detent Module
T - Top Adjust
L - with Lead Wires
R - with Ribbon Cable

**Seal Type**
S = Sealed
D = Dust Proof

**Number of gangs**
Up to 6
(2 max. on T style and
5 max. on S style)

**Detent (D style only)**
Omit = No Detent
1 = Center Detent
2 = 11 Detents
3 = 21 Detents

**Bushing and Shaft size**
A = 3.2mm shaft
B = 6.35mm shaft
(See Note 1)

**Total Resistance**
See Resistance Table below

**Resistance Taper**
A = Audio (15A)
B = Linear(1B)
C= Reverse Audio(15C)
D= Audio (10A)
(See Note 4)

**Full CCW Position**
(See Note 3)

**Shaft Length code**
(See Note 2)

**Shaft type**
S = Slotted
F = Flatted
(See Note 2)

| Resistance table | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Resistance | 1,000 | 2,000 | 5,000 | 10,000 | 20,000 | 50,000 | 100,000 | 200,000 | 500,000 | 1,000,000 |
| Code | 1K | 2K | 5K | 10K | 20K | 50K | 100K | 200K | 500K | 1MEG |


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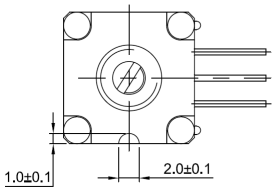
## Outline Drawings

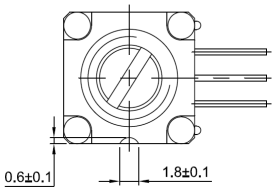
**Note 1:**
**Bushing and Shaft Combinations**

| CODE | BUSHING SIZE | BUSHING LENGTH "M" | SHAFT ø | ANTI–ROTATION LUG (mm) |
|---|---|---|---|---|
| A | 6.35mm (1/4") | 6.35mm (1/4") | 3.2mm (1/8") | 2.0±0.1 x 1.0±0.1 x 1.0 TALL |
| B | 9.5mm (3/8") | 9.5mm (3/8") | 6.35mm (1/4") | 1.8±0.1 x 0.6±0.1 x 1.0 TALL |

**Anti-Rotation Lug Sizes**

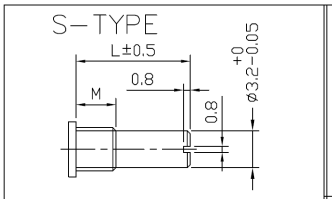
**A:**

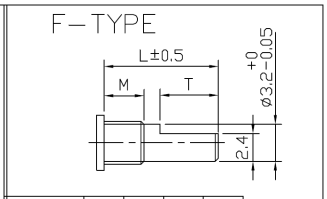



**B:**

**Note 2:**
**Shaft Type and Shaft Length "L" Code**
**For 3.2mm (1/8")**

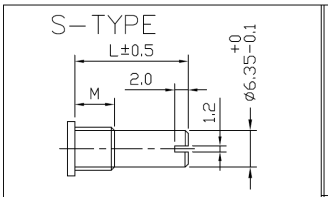


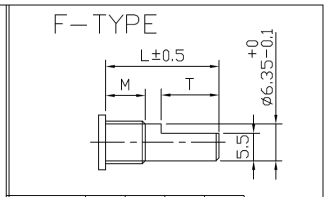




| L | 12 | 16 | 20 | 24 | 28 | 32 |
|---|---|---|---|---|---|---|
| CODE | 1 | 2 | 3 | 4 | 5 | 6 |

| L | 20 | 24 | 28 | 32 |
|---|---|---|---|---|
| T | 8 | 8 | 8 | 10 |
| CODE | 3 | 4 | 5 | 6 |

**Shaft Type and Shaft Length "L" Code**
**For 6.35mm (1/4")**

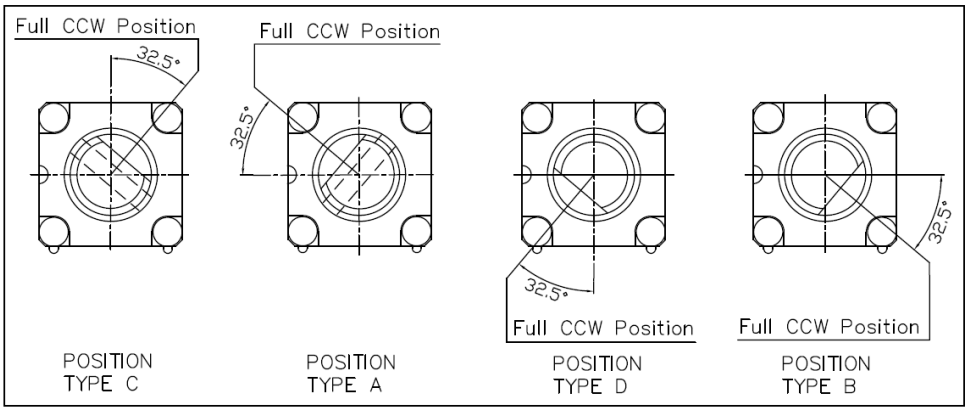



| L | 12 | 16 | 20 | 24 | 28 | 32 |
|---|---|---|---|---|---|---|
| CODE | 1 | 2 | 3 | 4 | 5 | 6 |

| L | 20 | 24 | 28 | 32 |
|---|---|---|---|---|
| T | 8 | 8 | 12 | 12 |
| CODE | 3 | 4 | 5 | 6 |

**Note 3:**
**Shaft Position (F-Type Shaft)**
**Dashed lines on Type "C" and Type "A" shows position of adjustment slot for S-Type shaft**





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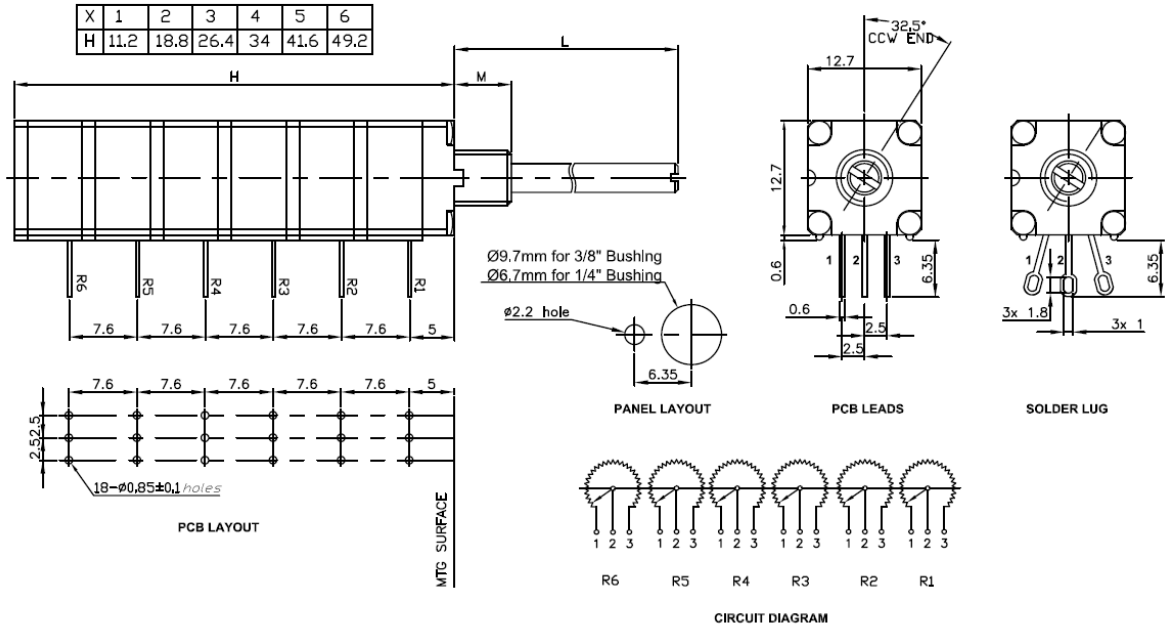
## Outline Drawings

### P260P/P261P—POTENTIOMETER MODULE

X= NUMBER OF GANGS

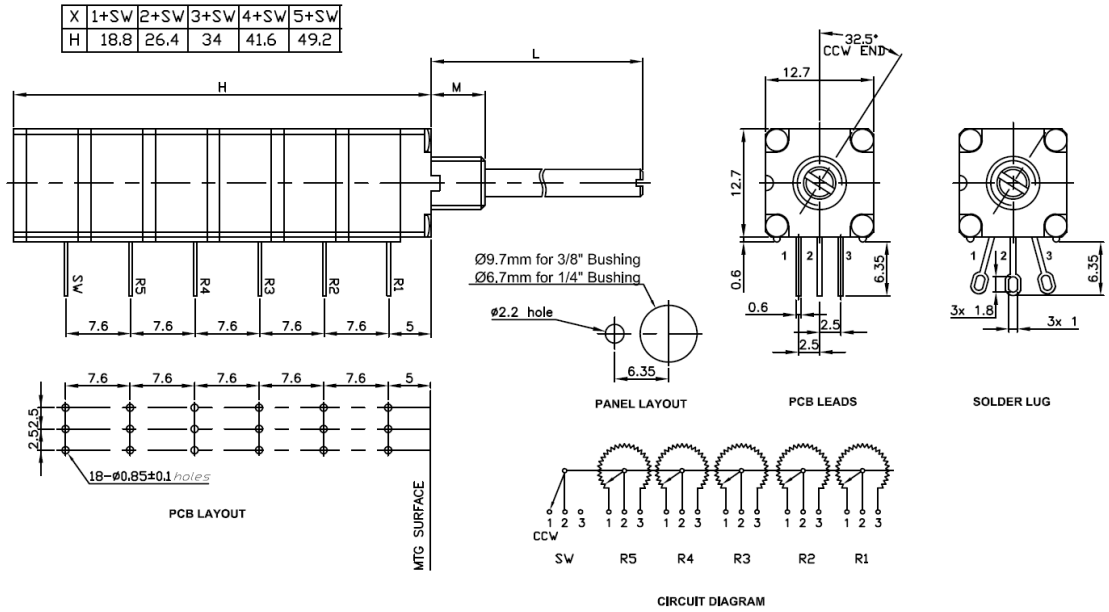
| X | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| H | 11.2 | 18.8 | 26.4 | 34 | 41.6 | 49.2 |




### P260S/P261S— WITH ROTARY SWITCH MODULE

X= NUMBER OF GANGS + 1 SWITCH
(SWITCH WILL BE IN LAST POSITION)

| X | 1+SW | 2+SW | 3+SW | 4+SW | 5+SW |
|---|---|---|---|---|---|
| H | 18.8 | 26.4 | 34 | 41.6 | 49.2 |





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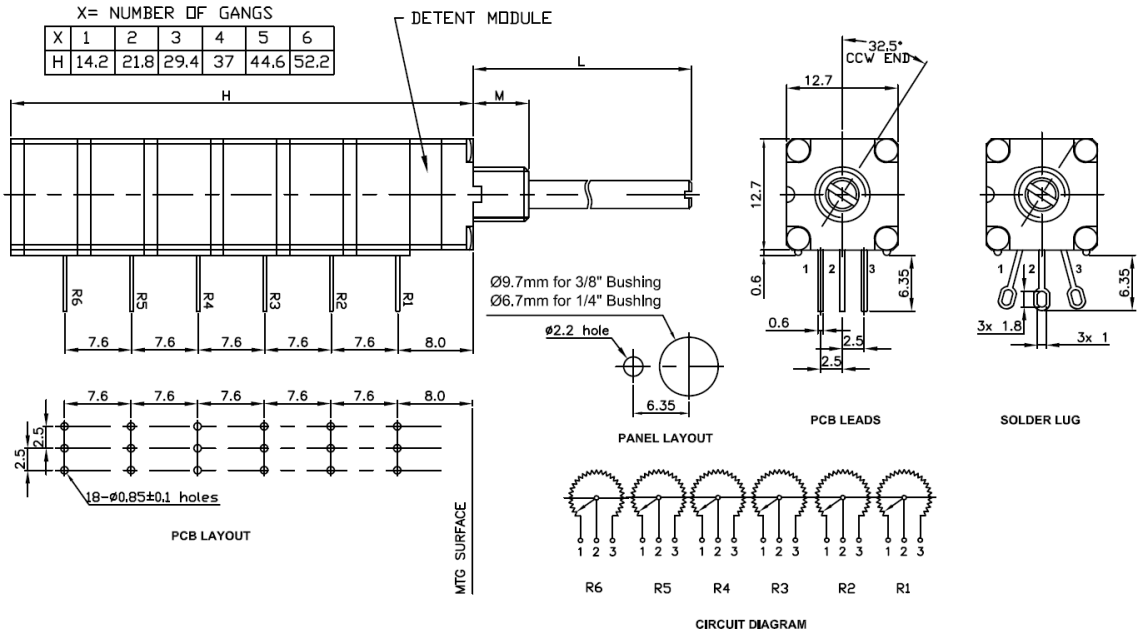
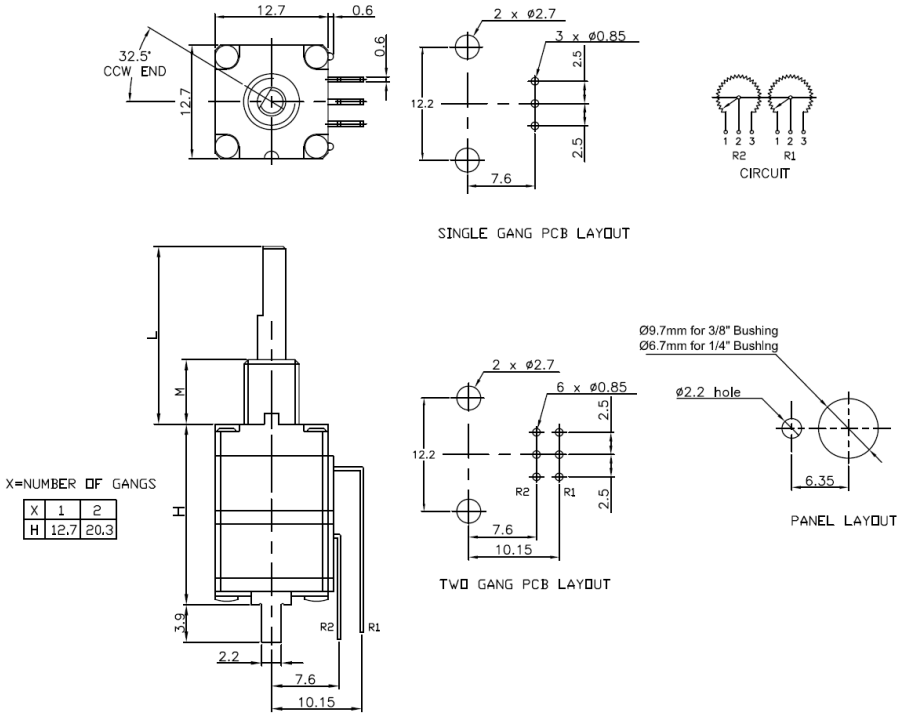
## Outline Drawings

### P260D/P261D—WITH DETENT MODULE




| X | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| H | 14.2 | 21.8 | 29.4 | 37 | 44.6 | 52.2 |

### P260T—TOP ADJUST, POTENTIOMETER MODULE




| X | 1 | 2 |
|---|---|---|
| H | 12.7 | 20.3 |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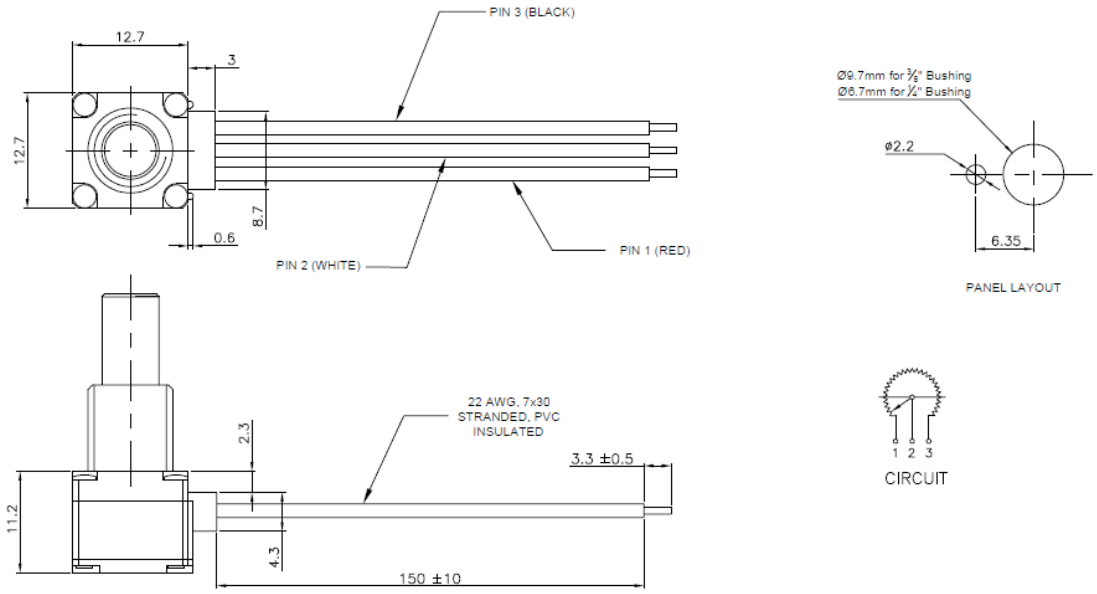
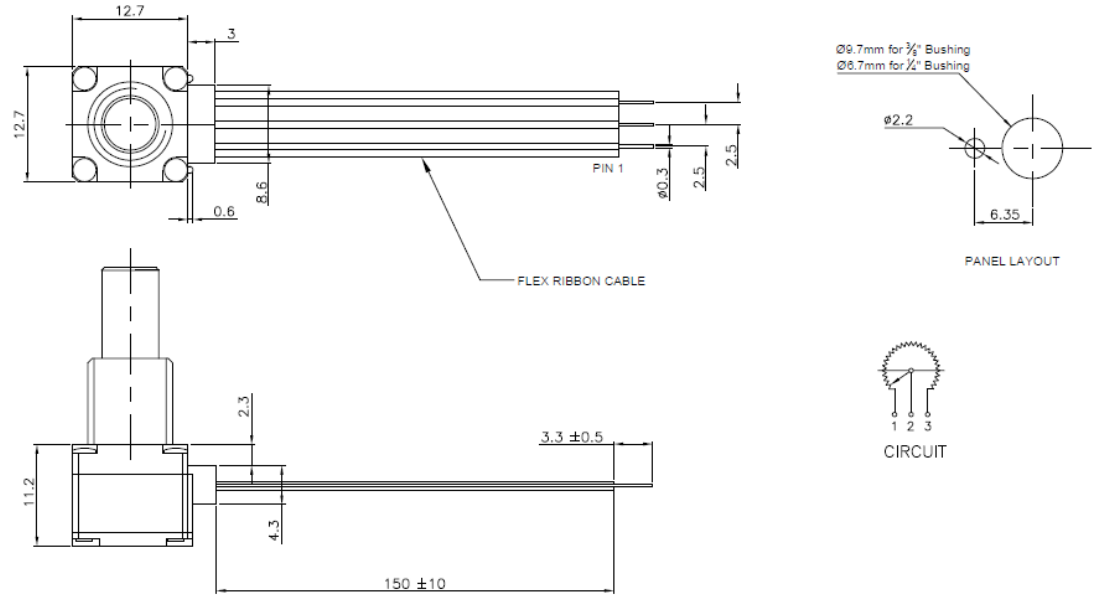
## Outline Drawings

### P260L - WITH WIRE LEADS




Contact Factory for Custom Options

### P260R - WITH RIBBON CABLE

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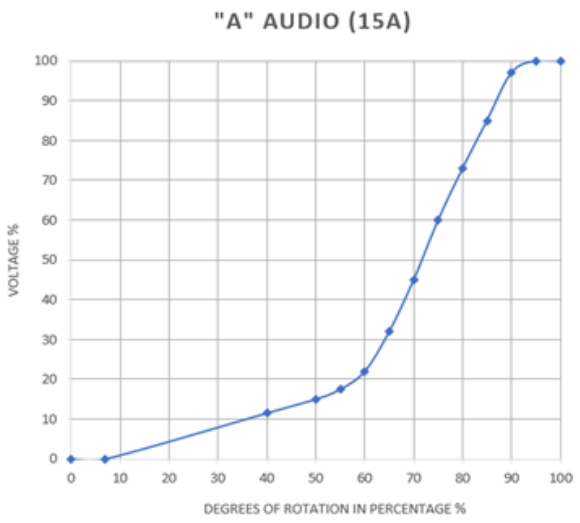
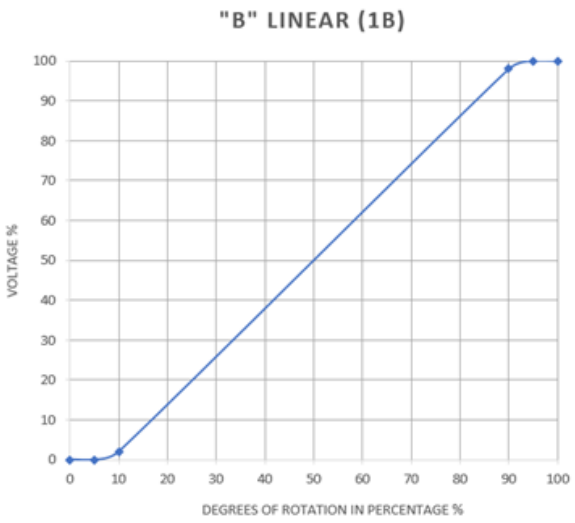
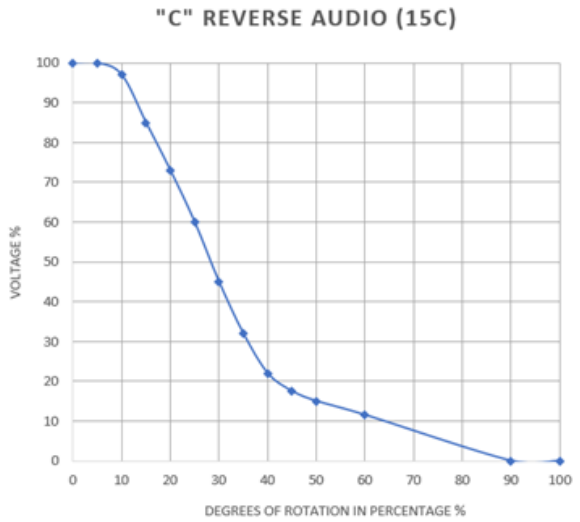
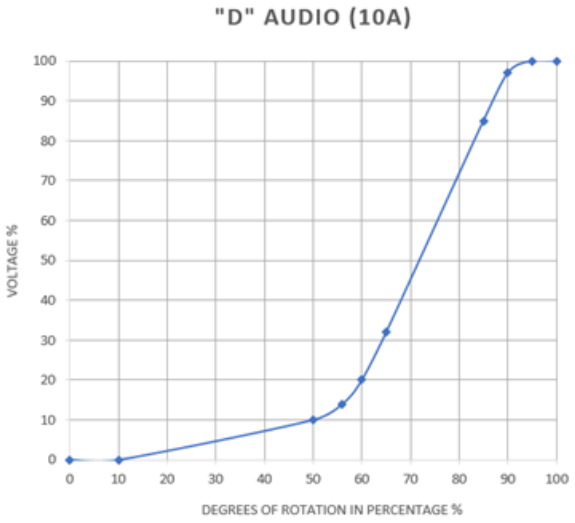
## Note 4: Standard Tapers

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