INSTRUMENTATION AND AUDIO/BROADCAST CONTROLS
MODELS 421, 422, 441, 442, M421, M422, M441, M442

Duncan 400 Slideline®
Potentiometers provide an ideal, human-factored solution for instrumentation and audio/broadcast controls, combining unusually accurate electrical characteristics with a wide variety of output options, fingertip controls, and faceplate alternatives to meet exacting customer applications requirements.

INSTRUMENTATION APPLICATIONS

Ideally suited for medical and process control equipment, or test/measurement apparatus, the 400 is capable of providing specific packaging or electrical characteristics without the special costs you might expect. The 400 can change its face and provide excellent accuracy in single or dual element configurations for the type of control you seek. Units are available with two individual wipers generating independent outputs for establishing high/low limits in monitoring instruments. For specs, infinite resolution, virtually noise-free operation and a reputation for failure-free performance (rated for 5 million traverses without degradation), is coupled with a 600Ω to 100KΩ resistance range (±20%; ±10% available) and linearities from ±2% to ±0.1%.

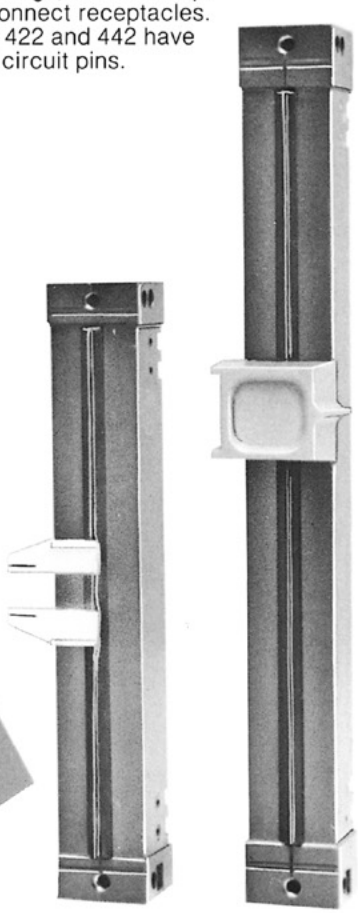
Lower noise levels, excellent linear and audio outputs, single or dual channel; all suited for the professional with an ear for total accuracy of sound or reproduction quality and an eye for sensitive instruments. And, these DUNCAN Slideline Controls are the narrowest professional faders in the industry, only 5/8" wide for greater side-by-side stacking capabilities in less space.

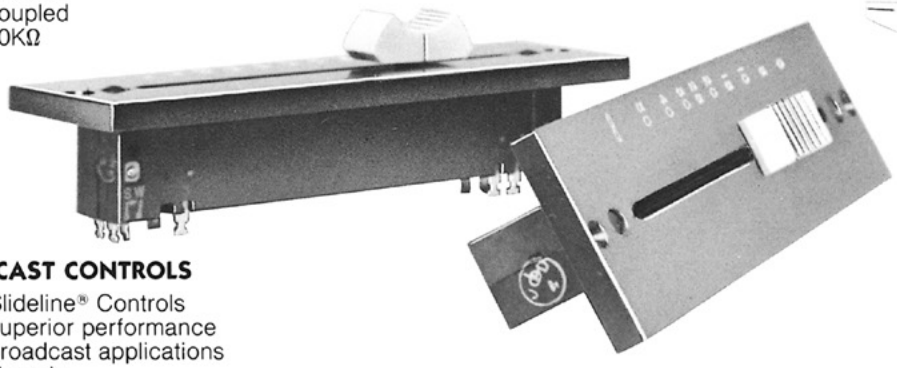
SPST-DPST SWITCHING

A normally open SPST or DPST "cue" switch function is available closing at the end of travel. As a result, valuable instrument panel space is saved and multiple functions provided.

The element, RESOLON™ conductive plastic, is well known for its low-noise and long-life characteristics. It has a ten year reliability record in the audio/broadcast field.

Terminals for Duncan's 421 and 441 models are solder type flat lugs, which accept quick-connect receptacles. Models 422 and 442 have printed circuit pins.



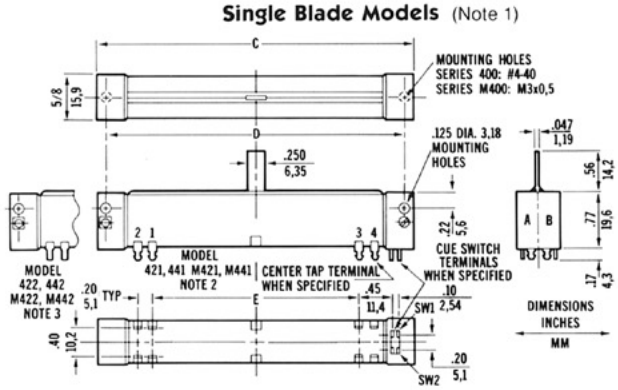


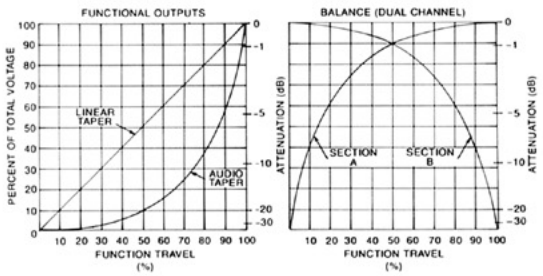
AUDIO/BROADCAST CONTROLS

DUNCAN's 400 Slideline® Controls have provided a superior performance record in audio/broadcast applications for more than a decade.

OUTLINE SPECIFICATIONS

Single Blade Models (Note 1)

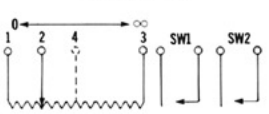




Dimensions

Model	Mech. Travel	C	D	E	Panel Cutout
421, 422 M421, M422	2¾ 70	4¼ 108	4.00 101,6	3.00 76,2	⅛ x 3⅝ 3 x 92
441, 442 M441, M442	4¼ 108	6" 152	5.75 146	4.50 114,3	⅛ x 5⅛ 3 x 130

Schematic



SLIDELINE® INSTRUMENTATION, AUDIO/BROADCAST POTENTIOMETERS

PERFORMANCE SPECIFICATIONS

L = Linear A = Audio B = Balance

Electrical		L	A	B
1. Resistance Range (Ohms)		1K to 250K	600 to 25K	1K to 25K
2. Standard Resistance Values* (Ohms)		1K 2K 5K 10K 20K 50K 100K	600 1K 5K 10K	1K 5K 10K
3. Resistance Tolerance**%		±20	±20	±20
4. Linearity Tolerance	Std. (%)	±2.0	NA	NA
	Special (%)	±0.1	NA	NA
5. Taper Conformity (dB)		NA	0-20 dB: ±2 >20-50 dB: ±4	NA
6. Tracking (Dual Channel Only) (dB)		2%	0-20 dB:2 >20-50 dB:4	NA
7. End Voltage (%)		0.5	NA	NA
8. Maximum Insertion Loss (dB)		NA	1.0	NA
9. Maximum Attenuation (dB) (Three-Terminal Device)		NA	90	NA
10. Resolution		INFINITE		
11. Power Rating at 70°C. (Watts)				
Model 421/422		2.5	.25	.25
Model 441/442		4.0	.40	.40

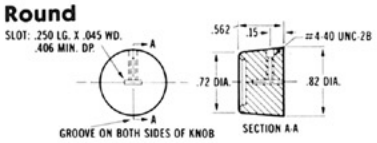
Mechanical		IN.	MM
1. Travel (Inches MM)	Model 421/422	2¾	70
	Model 441/442	4¼	108
2. Actuating Force, Max.	(Oz. gm.)	3	85
3. Stop Strength	(Lbs. Kg.)	10	4.5
4. Number of Channels		Single or Dual in Identical Case	
5. Terminals	Model 421/441	Solder Type Flat Lugs (Accepts Quick Connect Receptacles)	
	Model 422/442	Printed Circuit Pins	

General		
1. Ambient Temperature		-55°C. to +125°C.
2. Taps		Center Tap Available on Linear Only
3. Dual independent wipers		Available in Linear Only
4. Life	Traverses	5 Million

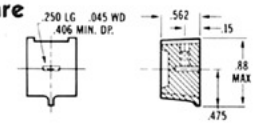
*Other values available as special. **Tighter tolerances available as special.

CONTROL KNOBS/POINTERS

Round



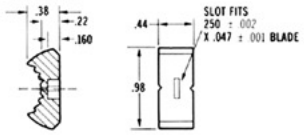
Square



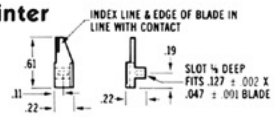
Tapered Round Style With Index Lines On Two Sides
Part No. 2-103 fits any device with actuating arm ¼" wide by 3/64" thick.

Modern Rectangular Contour With Molded Pointer On One Side
Part No. 2-104 fits any device with actuating arm ¼" wide by 3/64" thick.

Low Profile



Pointer



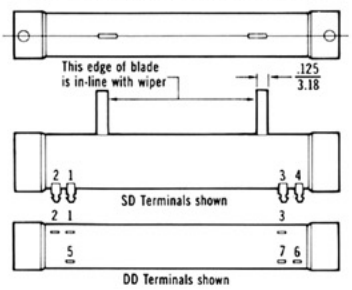
Popular Low Profile Styles With Index Line On Three Sides
Part No. 2-102. (Must specify panel thickness when ordering companion control.)

Left And Right Position Pointer Knobs With Index Line On One Side
Part No. 2-105-1 (left position knob) and Part No. 2-105-2 (right position knob shown).

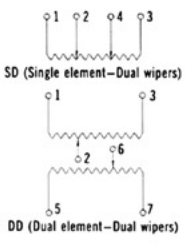
To specify colors for all four styles add the following—number to part numbers: —1 (White)—2 (Black)—3 (Red)—4 (Blue) —5 (Yellow)—6 (Green)
Example: Part No. 2-105-1-3 (left position pointer knob in red)

Dual Blade Models (Note 6)

Dual Wipers (Independent)



Schematic



Minimum wiper & blade separation

	Inches/MM	% Voltage-Ratio
Model 421/422	.10 ± .02/2.54 ± 0.5	3.5 ± 1
Model 441/442	.10 ± .02/2.54 ± 0.5	2.5 ± ¾
Travel (Inches/MM)		
Model 421/422	Inches	MM
Wiper 2	0.0 to 2.65	0 to 67.3
Wipers 4 or 6	0.1 to 2.75	2.5 to 70.0
Model 441/442		
Wiper 2	0.0 to 4.15	0 to 105.4
Wipers 4 or 6	0.1 to 4.25	2.5 to 108.0

Notes:

1. Dual unit with cue switches and center tap shown. Single element unit is identical except side B has no terminals and unit has no switches.
2. Terminals will accept series 110 quick connect receptacle (tab size: .110x.016 2.8x0.4)
3. Printed circuit pins (.062x.016 1.57x0.4)
4. Design details subject to change without notice.
5. Tolerances unless otherwise specified: Fractions ± 1/64 ± 0.4
   XX ± .010 ± 0.25
   XXX ± .005 ± 0.125
6. All dimensions can be obtained from the single blade outline.