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SURFACE SYSTEMS & INSTRUMENTS, INC. smoothroad.com

Custom Test Equipment • Mobile Technology Solutions

CS8500 PROFILOGRAPH

HARDWARE	SOFTWARE
•The original and *only* true California type system. Formerly the Cox and McCracken branded systems. •Guaranteed compliance for USACE/FAA, ASTM, DOT specifications. •Professionally engineered hardware refined over 50 years.	•Easy to learn, easy to use Windows software programs. •Multiple profile Indexes supported (PRI, IRI, HRI, RN). •Computer instructed calibration and data collection routines. •Feature rich, mature data analysis software.
• One-person assembly and operation. • Aluminum frame and support wheels assemble in minutes. • Portable operator control housing with AC/DC power supplies.	•Collect dual wheel paths from either direction or any starting point. •Dual wheel paths test results on one trace with results averaged. •Two trace reports allow assessment of profile across lane.
•Bi-directional frame operation (reversible steering hardware orients system to test adjacent wheel path without turn-around).	•English or Metric data collection and reporting. •Display of test results, stationing, and profile trace during collection. • Localized Roughness navigation through trace view & Google Earth.
•Panasonic Toughbook computer with Touchscreen controls. •Toughbook computer is Mil-Spec (<1.5% annual failure rate). •Lightweight generator for AC power. • Optional DC battery.	•Must-grind bumps/dips display in real time with audible alarm. •Customized localized roughness reports display dimensions and peak magnitude for each bump and dip.
•GPS subsystem displays of GPS position, integrates coordinates with profile stations, localized roughness, and Google Earth.	•Profile reports and traces on-screen, in PDF images, or hard copy. •Raw data exports to multiple formats (Excel, ERD/PPF for ProVal).
•Adjustable hardware for over/under steering on curved surfaces. •Reversible brake for parking frame on sloped surfaces. •Optional enclosed cargo trailer with engineered hardware for secure storage and transit of CS8500 system.	•Raw profile data encrypted for maximum security. •Profile data infinitely re-writable with different parameters. •Parameters adjust comply with all commonly used agency specifications (e.g. ASTM, DOT, Transport Ministry, FAA, and USACE).
•All major spare parts stocked and available by expedited delivery. •Warranty on all individual and integrated system components.	•Add new data to existing profile data files for comparison of original and corrected surfaces. • Track ride improvement throughout project.
•Optional on-board printer for field printing traces and reports with power assisted paper take-up for auto-scrolling of profile traces.	•Software license for field and desktop computers. • On-site operator training and certifications available worldwide.
•Bridge configuration available (e.g. CalTrans Test 547). •Buy or Rent (equipment only or with trained operator).	• Software updates by internet download (self-extracting). • Worldwide customer support.

CS8500 Profilograph

Run 1 - Speed (Ave, Max, Min) = 28.9, 30.2, 28.0

Track 1 Seg	Track 1 Station (ft)	Track 1 IRI (in/mi)	Track 2 Seg	Track 2 Station (ft)	Track 2 IRI (in/mi)	Track 3 Seg	Track 3 Station (ft)	Track 3 IRI (in/mi)	Average IRI (in/mi)
1	0+00.0 5+28.0	89.899	1	0+00.0 5+28.0	76.239	1	0+00.0 5+28.0	118.728	94.955
2	5+28.0 10+56.0	72.542	2	5+28.0 10+56.0	90.961	2	5+28.0 10+56.0	122.822	95.442
3	10+56.0 15+84.0	78.203	3	10+56.0 15+84.0	103.759	3	10+56.0 15+84.0	136.980	106.314
4	15+84.0 21+12.0	73.518	4	15+84.0 21+12.0	107.121	4	15+84.0 21+12.0	123.757	101.465
5	21+12.0 26+40.0	76.346	5	21+12.0 26+40.0	102.712	5	21+12.0 26+40.0	120.646	99.901
6	26+40.0 31+68.0	71.641	6	26+40.0 31+68.0	93.493	6	26+40.0 31+68.0	121.843	95.659
7	31+68.0 36+96.0	74.753	7	31+68.0 36+96.0	91.566	7	31+68.0 36+96.0	115.557	93.959
8	36+96.0 42+24.0	70.019	8	36+96.0 42+24.0	89.778	8	36+96.0 42+24.0	104.322	88.040
9	42+24.0 47+52.0	72.644	9	42+24.0 47+52.0	79.612	9	42+24.0 47+52.0	95.883	82.713
10	47+52.0 51+92.5	104.312	10	47+52.0 51+92.5	101.398	10	47+52.0 51+92.5	128.052	111.254
	0+00.0 51+92.5	77.956		0+00.0 51+92.5	93.537		0+00.0 51+92.5	118.705	96.729

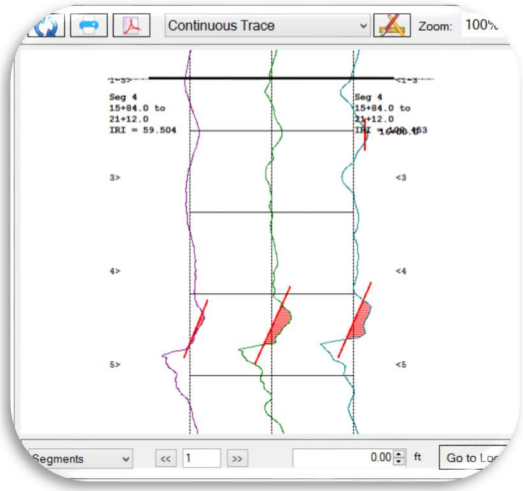
Defect Locations:

Defect	Type	Track	Segment	Start		End	Length (ft)
1	Bump	2	1	0+16.8	to	0+29.4	12.6
2	Bump	3	1	0+18.3	to	0+32.5	14.2
3	Bump	1	1	0+20.2	to	0+33.3	13.2
4	Bump	2	1	5+07.2	to	5+12.9	5.8
5	Bump	2	2	6+50.4	to	6+54.6	4.2
6	Bump	2	2	6+72.6	to	6+80.7	8.1
7	Bump	3	2	6+73.6	to	6+80.7	7.1
8	Bump	1	2	6+74.8	to	6+80.0	5.3

Segments << 1 >> 0.00 ft Go to Location

▲Report Window View of Test Results, Defects, and GPS Coordinates▲

▲ Google Earth Real Time View of Profile ▲



▲On-Screen View of Multiple Wheel Path Profile Traces▲

Localized Roughness Settings

Simulated Profilograph Data Used for Defects Analysis

Defect Template Bump Height: 0.300 in
Defect Template Bump Width: 25.000 ft
Defect Template Dip Depth: 0.400 in
Defect Template Dip Width: 25.000 ft

Defect	Type	Track	Segment	Start	End	Peak Height (in)	Peak Station	Closest GPS Note
1	Bump	1	1	185+31.4	to 185+35.0 Peak:	0.345	at 185+34.2	34 2' 9.59" N 118 10' 7.31" W
2	Dip	2	2	215+30.1	to 215+23.3 Peak:	-0.411	at 215+29.7	34 2' 4.13" N 118 10' 42.02" W
3	Dip	1	6	215+30.9	to 215+42.5 Peak:	-0.640	at 215+36.0	34 2' 4.43" N 118 10' 40.79" W
4	Bump	2	2	215+44.2	to 215+35.8 Peak:	0.372	at 215+43.2	34 2' 4.13" N 118 10' 42.02" W
5	Bump	1	6	215+46.8	to 215+52.4 Peak:	0.358	at 215+49.3	34 2' 4.43" N 118 10' 40.79" W
6	Bump	1	7	217+96.4	to 218+05.8 Peak:	0.389	at 217+98.2	34 2' 3.57" N 118 10' 44.26" W
7	Dip	1	7	218+06.9	to 218+13.7 Peak:	-0.528	at 218+07.8	34 2' 3.57" N 118 10' 44.26" W

Track 1 Defects: 5
Track 2 Defects: 2
Total Defects: 7

▲Bump/Dip Reports with Exact Dimensions and GPS Locations▲

▲Rugged Touchscreen Computer▲

▲Detachable Housing With AC/DC Power▲

▲Optional Enclosed Trailer▲

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