

TadiGuard™ / TadUser™ New Features

Software revisions TadUser 5.2, TadiGuard 4.8

The SecSpy™ passive monitor adds SECS data to TadiGuard

SECS-I (RS232) SecSpy™ adapter

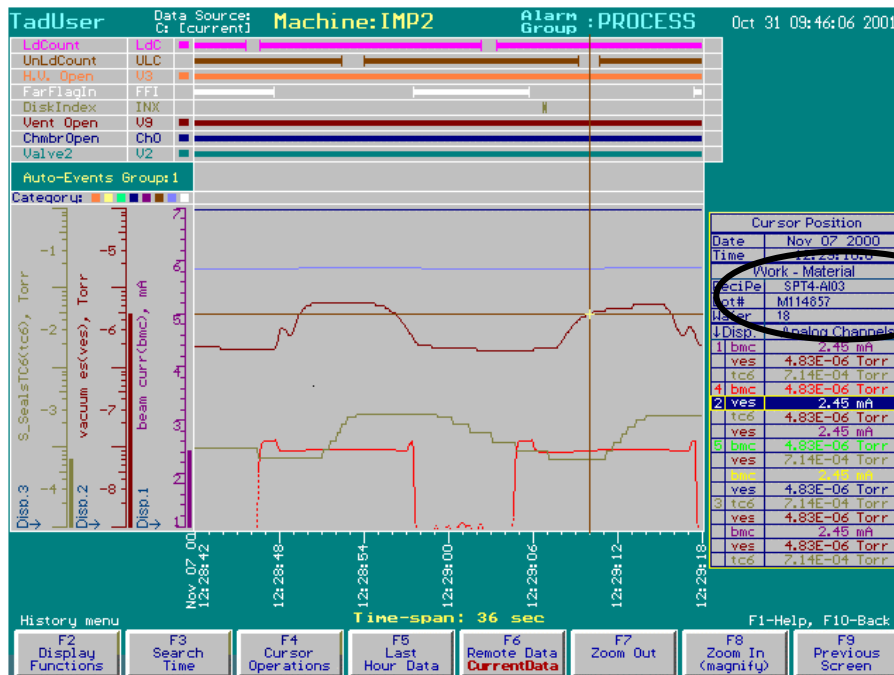
A SECS-I RS232 passive bi-directional non-invasive (software or hardware) ‘sniffer’ adapter. Consisting of a piggyback direct in-out RS232 adapter and fully optically isolated bi-directional connection to the monitoring computer (TadiGuard or other).

SECS-I/II Transaction Interpreter

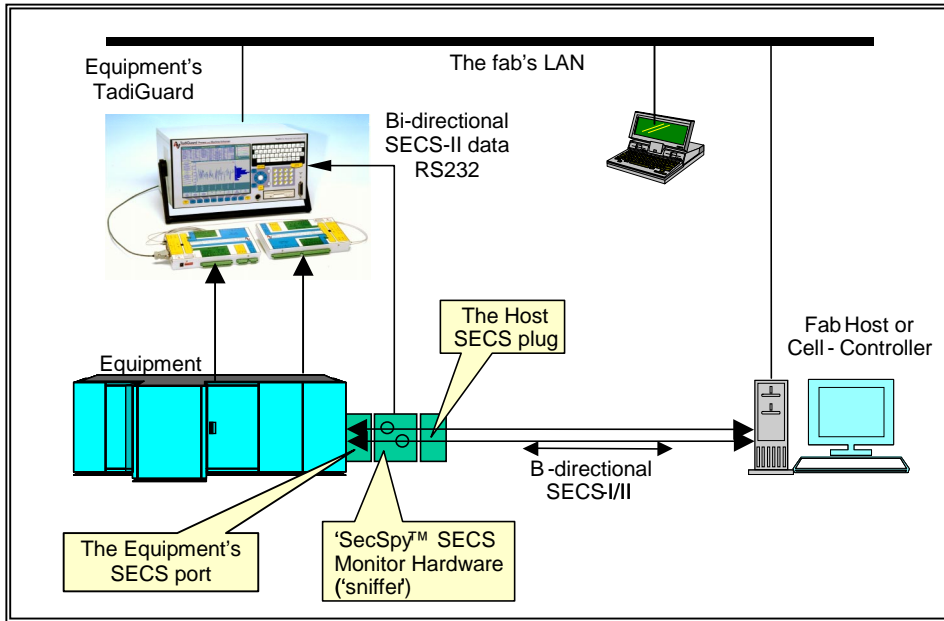
Uses Tadin’s SECS-I SecSpy™ passive adapter piggyback connection, this SecSpy software application reads all bi-directional SECS / GEM transactions between the equipment and the host, identifies the SECS Streams and Functions and extracts the SECS data. A real-time on-screen fully detailed listing is displayed and a log file is built with message breakdown, time stamp, direction, etc. , displayed in Hexadecimal, ASCII or Binary. The messages can be displayed, sorted, filtered and analyzed, down to the last bit.

TadiGuard LotLock™ recipe / lot interlock module

The TadiGuard LotLock dedicated software module is a TadiGuard built-in, real-time monitor and interlock that will identify selected SECS events provided by the SecSpy module. The LotLock interlocks lot numbers and recipes, adding to the TadiGuard watchdog the capability to inhibit wrong process parameters and lost work. The LotLock enables also to add to the TadiGuard data the fully synchronized lot numbers, recipes, wafer numbers, etc., all monitored by the SecSpy™.



The LotLock Recipe with the SECS Lot# and wafer# data



The SecSpy connection with TadiGuard and the SECS line.

Independent SecSpy:

The SecSpy package (The hardware passive 'sniffer' and the software) can be used (and is sold) independently of the TadiGuard with any PC. It is an excellent and easy to use SECS monitor, with many useful features.

Tadin SecSpy U:\volodya_SecSpy\Demo\SecsData\09-05-2001 00-00-00.bin

Setup Switch Help

Port-A	Port-B	Machine	History	Filter	Raw Data	Exit	Direction	Date	Stream Func.	Result	DeviceID	Message ID	Src ID	Trans...	Message name
H << E	09-05-2001 06:20:15.170	S5F1					H << E	09-05-2001 06:20:15.170	S5F1	ALCD=135,ALID=4916031,ALT=Host Mode transition Control to Local	1234	35567699...	34002	212	Alarm Report Send (A)
H << E	09-05-2001 06:19:31.120	S5F1					H << E	09-05-2001 06:19:31.120	S5F1	ALCD=135,ALID=4916102,ALT=Water Processing Complete	1234	35399927...	34002	211	Alarm Report Send (A)
H << E	09-05-2001 06:18:28.310	S5F1					H << E	09-05-2001 06:18:28.310	S5F1	ALCD=132,ALID=4915400,ALT=Water Interlock NOT Sensed	1234	35232155...	34002	210	Alarm Report Send (A)
H << E	09-05-2001 06:18:22.900	S5F1					H << E	09-05-2001 06:18:22.900	S5F1	ALCD=135,ALID=4916001,ALT=Remove Cassette B	1234	35064383...	34002	209	Alarm Report Send (A)
H << E	09-05-2001 06:18:18.280	S5F1					H << E	09-05-2001 06:18:18.280	S5F1	ALCD=135,ALID=4916102,ALT=Water Processing Complete	1234	34896610...	34002	208	Alarm Report Send (A)
H << E	09-05-2001 05:36:52.030	S5F1					H << E	09-05-2001 05:36:52.030	S5F1	ALCD=135,ALID=4916000,ALT=Remove Cassette A	1234	26340230...	34002	157	Alarm Report Send (A)
H << E	09-05-2001 05:12:53.140	S5F1					H << E	09-05-2001 05:12:53.140	S5F1	ALCD=131,ALID=4915353,ALT=0025 Power Wrm Out of Tolerance	1234	21474838...	34002	128	Alarm Report Send (A)
H << E	09-05-2001 05:10:06.200	S5F1					H << E	09-05-2001 05:10:06.200	S5F1	ALCD=131,ALID=4915353,ALT=0025 Power Wrm Out of Tolerance	1234	20635977...	34002	123	Alarm Report Send (A)
H << E	09-05-2001 04:55:23.190	S5F1					H << E	09-05-2001 04:55:23.190	S5F1	ALCD=135,ALID=4916003,ALT=Replace Cassette B	1234	17448306...	34002	104	Alarm Report Send (A)
H << E	09-05-2001 04:46:24.920	S5F1					H << E	09-05-2001 04:46:24.920	S5F1	ALCD=131,ALID=4915353,ALT=0025 Power Wrm Out of Tolerance	1234	15602812...	34002	93	Alarm Report Send (A)
H << E	09-05-2001 04:36:24.690	S5F1					H << E	09-05-2001 04:36:24.690	S5F1	ALCD=131,ALID=4915353,ALT=0025 Power Wrm Out of Tolerance	1234	13421774...	34002	80	Alarm Report Send (A)
H << E	09-05-2001 04:13:51.160	S5F1					H << E	09-05-2001 04:13:51.160	S5F1	ALCD=135,ALID=4916002,ALT=Replace Cassette A	1234	655638175	34002	51	Alarm Report Send (A)
H << E	09-05-2001 03:45:41.820	S5F1					H << E	09-05-2001 03:45:41.820	S5F1	ALCD=131,ALID=4915353,ALT=0025 Power Wrm Out of Tolerance	1234	268435615	34002	16	Alarm Report Send (A)
H << E	09-05-2001 03:27:11.450	S5F1					H << E	09-05-2001 03:27:11.450	S5F1	ALCD=135,ALID=4916003,ALT=Replace Cassette B	1234	16777375	34002	1	Alarm Report Send (A)
H >> E	09-05-2001 03:26:11.250	S7F11					H >> E	09-05-2001 03:26:11.250	S7F11	PPID=Recipe 0025, MID=Lot# 50123 04,	1234	158	1234	0	MP M Update Send (L)
H << E	09-05-2001 03:23:38.170	S5F1					H << E	09-05-2001 03:23:38.170	S5F1	ALCD=135,ALID=4916023,ALT=Host Mode transition Monitor to Control	1234	117440661	34002	7	Alarm Report Send (A)
H << E	09-05-2001 03:23:35.150	S5F1					H << E	09-05-2001 03:23:35.150	S5F1	ALCD=135,ALID=4916012,ALT=Host Mode transition Local to Monitor	1234	83866229	34002	5	Alarm Report Send (A)
H << E	09-05-2001 03:03:13.440	S5F1					H << E	09-05-2001 03:03:13.440	S5F1	ALCD=135,ALID=4916031,ALT=Host Mode transition Control to Local	1234	67109013	34002	4	Alarm Report Send (A)
H << E	09-05-2001 03:02:21.150	S5F1					H << E	09-05-2001 03:02:21.150	S5F1	ALCD=135,ALID=4916102,ALT=Water Processing Complete	1234	50331797	34002	3	Alarm Report Send (A)
H << E	09-05-2001 03:01:24.470	S5F1					H << E	09-05-2001 03:01:24.470	S5F1	ALCD=132,ALID=4915353,SECS messages will display here!olerance	1234	33554581	34002	2	Alarm Report Send (A)
H << E	09-05-2001 02:56:23.920	S5F1					H << E	09-05-2001 02:56:23.920	S5F1	ALCD=135,ALID=4916003,ALT=Replace Cassette B	1234	16777365	34002	1	Alarm Report Send (A)
H >> E	09-05-2001 02:55:21.410	S7F11					H >> E	09-05-2001 02:55:21.410	S7F11	PPID=Recipe 0012, MID=Lot# 50021 02,	1234	148	1234	0	MP M Update Send (L)
H << E	09-05-2001 02:53:37.270	S5F1					H << E	09-05-2001 02:53:37.270	S5F1	ALCD=135,ALID=4916023,ALT=Host Mode transition Monitor to Control	1234	34896610...	34002	208	Alarm Report Send (A)
H << E	09-05-2001 02:53:30.410	S5F1					H << E	09-05-2001 02:53:30.410	S5F1	ALCD=135,ALID=4916012,ALT=Host Mode transition Local to Monitor	1234	34561066...	34002	206	Alarm Report Send (A)
H << E	09-05-2001 02:41:26.160	S5F1					H << E	09-05-2001 02:41:26.160	S5F1	ALCD=135,ALID=4916031,ALT=Host Mode transition Control to Local	1234	34393294...	34002	205	Alarm Report Send (A)
H << E	09-05-2001 02:22:06.520	S5F1					H << E	09-05-2001 02:22:06.520	S5F1	ALCD=135,ALID=4916001,ALT=Remove Cassette B	1234	34225522...	34002	204	Alarm Report Send (A)
H << E	09-05-2001 02:22:02.400	S5F1					H << E	09-05-2001 02:22:02.400	S5F1	ALCD=135,ALID=4916102,ALT=Water Processing Complete	1234	34057749...	34002	203	Alarm Report Send (A)
H << E	09-05-2001 01:39:18.090	S5F1					H << E	09-05-2001 01:39:18.090	S5F1	ALCD=135,ALID=4916000,ALT=Remove Cassette A	1234	25501369...	34002	152	Alarm Report Send (A)
H << E	09-05-2001 00:57:55.130	S5F1					H << E	09-05-2001 00:57:55.130	S5F1	ALCD=135,ALID=4916003,ALT=Replace Cassette B	1234	16944989...	34002	101	Alarm Report Send (A)
H << E	09-05-2001 00:18:04.500	S5F1					H << E	09-05-2001 00:18:04.500	S5F1	ALCD=135,ALID=4916002,ALT=Replace Cassette A	1234	672415374	34002	52	Alarm Report Send (A)

A typical SecSpy output screen with interpreted SECS transaction log.

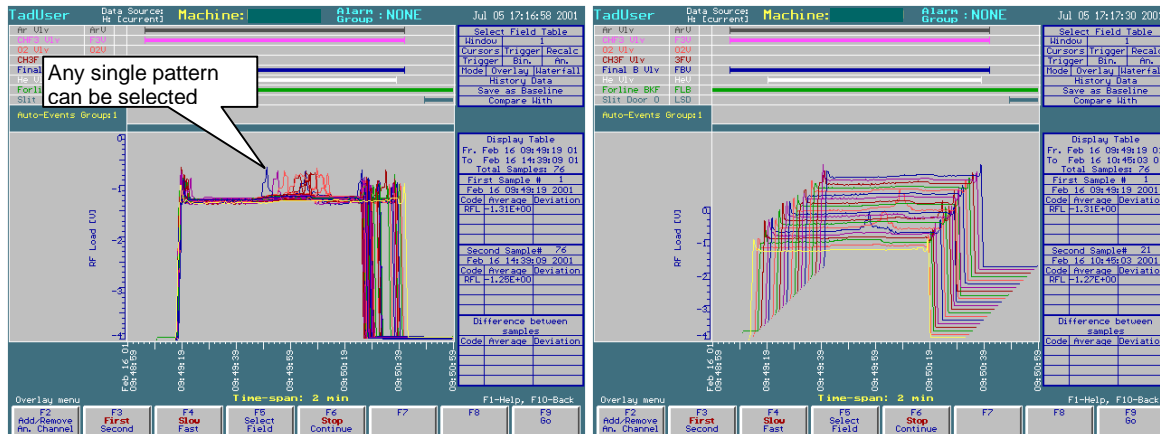
Diagnostics: Pattern Overlay (TadUser)

Single-channel overlay

Define a process pattern and search history to extract all occurrences of the defined pattern in a selected timeframe. Display all extracted patterns upon each other, synchronized by either a binary trigger or by an adjustable analog level.

Each pattern can be selected and analyzed in its original absolute time.

Additional fully synchronized analog and binary channels can be added and overlaid.



Single-channel Overlay: Normal and Waterfall

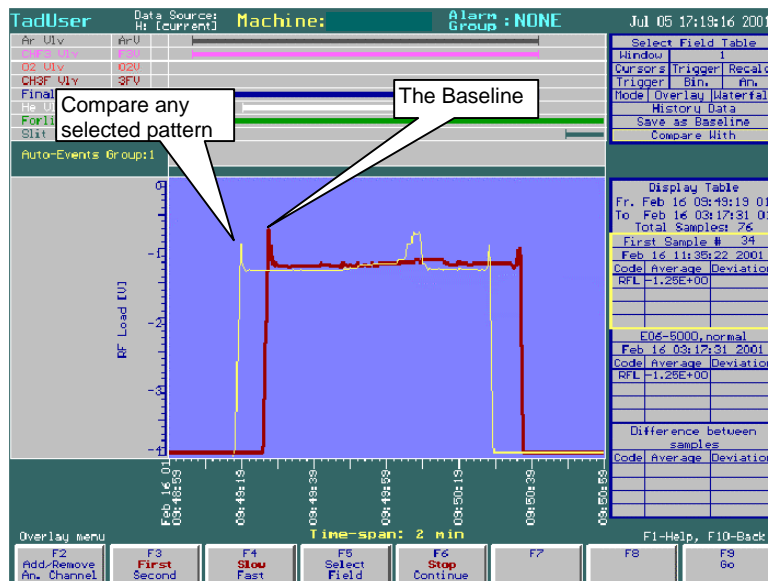
Overlay Comparisons

Select and save as Baselines any number of the graphically extracted and displayed patterns.

Compare any other pattern with the saved Baselines. Calculate pattern differences.

The Compare feature can be used to compare the same pattern of different times or patterns of different machines or chambers.

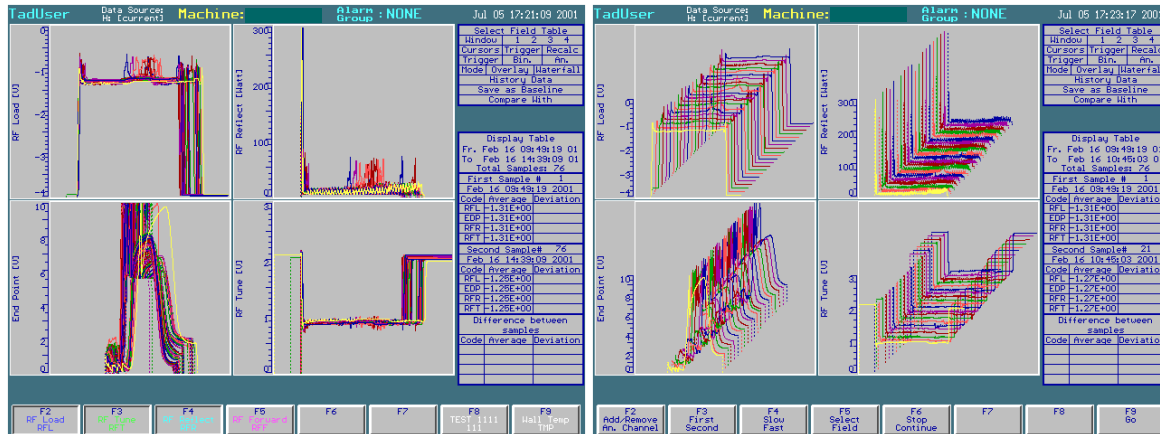
This unique feature is excellent for tool matching and qualifications after maintenance.



Single channel Overlay – Compare to Baseline

Multi-channel Overlay

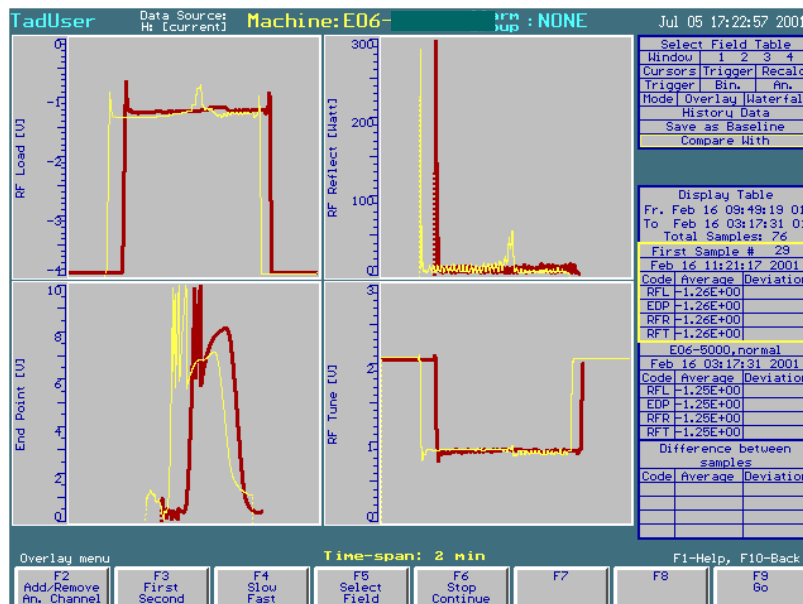
Define a process pattern and select up to 4 parameters (channels). Display overlay of all selected channels for the same process step in up to 4 fully synchronized or matched views. Channels from different chambers or machines can be displayed and synchronized for tool matching.



Multi-channel Overlay, Normal and Waterfall

Multi-channel Overlay Comparisons

Select as Baseline and highlight any of the graphically displayed patterns. Compare any other pattern with the Baseline. Calculate patterns' differences.



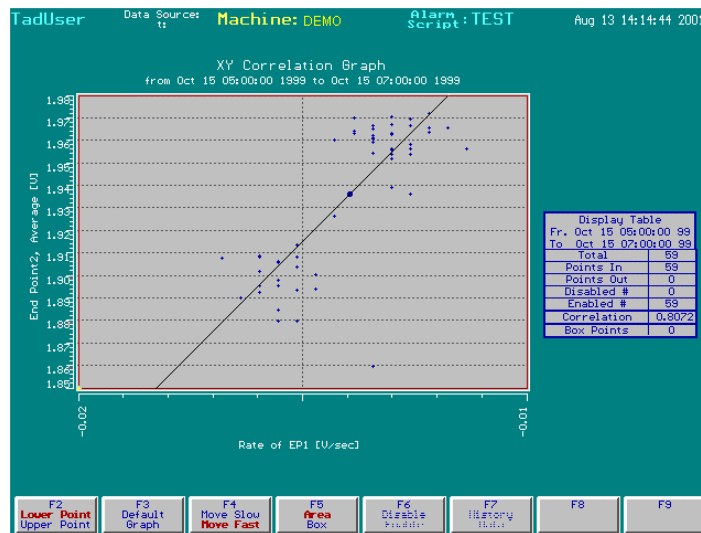
Multi-channel Comparison to Baseline

Diagnostics: X-Y Correlation (TadUser)

Select any analog channels extracted values (by pattern selection) and display as function of any other analog channel(s).

Will show the correlation of channels in a selected time-span.

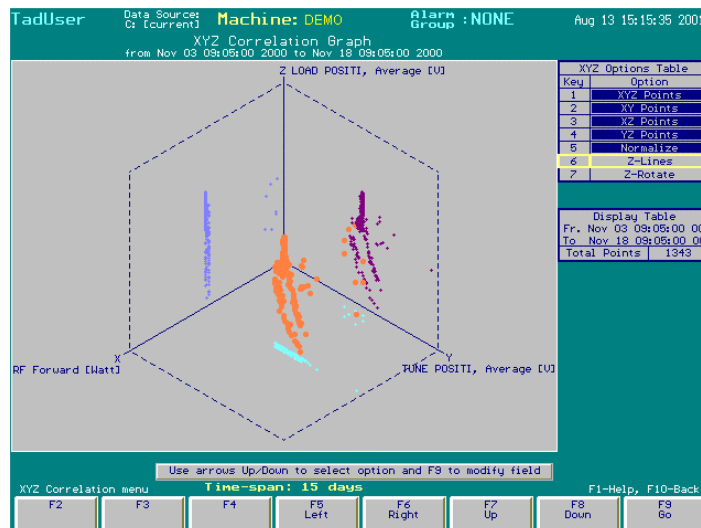
The Correlation and Standard Deviation will be calculated and displayed.



Typical X-Y Correlation

Diagnostics: X-Y-Z Correlation (TadUser)

The X-Y-Z Correlation will be presented as a 3-plan display of the interrelations of any three parameters, and their 3-D imaginary correlation points. The plans can be rotated for clarity.



Typical X-Y-Z Correlation