DATA SHEET

Targets	ILS Localizer. ILS Glide Slope. VOR.					
Standards	Meets ICAO (Annex 10 & doc. 8071) recommendations for CAT I-II-III runways inspection.					
Inspection Modes	Covering: LOCALIZER course alignment, course structure, coverage, linearity coverage, displacement sensitivity and off-course clearance. GLIDE PATH coverage, displacement sensitivity, path angle and end-fire transverse structure.					
	In compliance with the ICAO Annex 10 & Doc. 8071 inspection procedures.					
Positioning	GPS+GLONASS RTK. (centimetric precision).					
Reliability of results	The only system with RTK positioning error bound, based on patented algorithm.					
Modular	Different configuration options to meet particular user needs: - (a) ILS LOC and VOR only - (b) ILS LOC, ILS GS and VOR					
Repeatable	Enables for correlation studies between ground and flight inspections.					
Cost Savings	 Less staff and time required for inspections. Automatic, less errors. Improved procedures to reduce extra flight inspection hours. Minimum disturbance to airport operations. 					

Product info website at:

http://www.amv.com/en/Products/emil/

CONTACT

emil@gmv.com



For more info

http://www.gmv.com/en/Products/emil/



A product by:



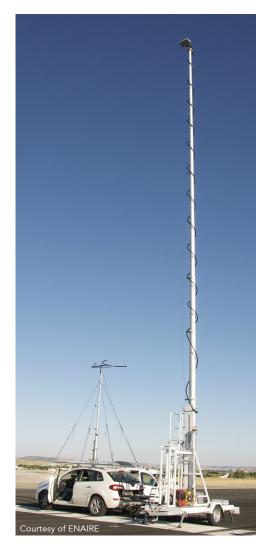
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SAVE NAVAIDS COSTS IN YOUR AIRPORT ADVANCED ILS/VOR GROUND INSPECTION





MOTIVATION

emil enables cost-efficient, automatic and repeatable ground inspections of ILS Localizer, ILS Glide Slope and VOR.

emil helps airport operators to improve their inspection procedures by being more flexible, efficient and less error-prone. Current users have reduced some maintenance costs by up to 50%.

emil has been developed in accordance with ICAO recommendations stated in Annex 10 & Doc. 8071 for regularly measuring CAT I-II-III runways.



KEY ADVANTAGES

Using emil, airport operators can benefit from:

- Reduction of ground inspection costs; less staff and time required.
- Full inspection capability of ILS and VOR; enables pre/post flight inspection checks. Avoid extra flight hours.
- Automatic and easier ground inspection procedures; less error-prone.
- Built-in powerful analysis capabilities in both real-time and post-processing.
- Repeatable measurements; enabling detection of temporal variations in ILS/VOR signals.
- Precise position calculation with bounded errors; no need for field markers.
- Versatility and flexibility: can be used for preventive and corrective operations and in operating runways.

With *emil*, airport operators are better prepared to implement correlation plans between ground and flight inspections that, in accordance with ICAO, could extend the flight inspection periods with the subsequent savings.

COMPONENTS

emil is a turn-key modular system adaptable to particular user needs, composed by:

- System rack, including GPS & GLONASS sensor, ILS/VOR receiver (sampling rate 100Hz, can be provided by the user), and communications.
- Touch screen computer, ready for installation on vehicle dashboard.
- Software Application, including real-time data processing, driver's guidance and system monitoring and control. Custom features including maps, airports, navaids and reports.
- Telescopic mast for antennas, with different options:

· ILS LOC and VOR only:

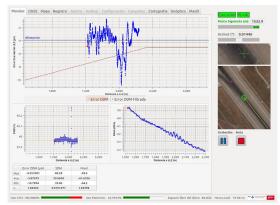
Short mast (height according to the user's needs up to a maximum of 7m) with GPS/GLONASS and ILS LOC/VOR (108-118MHz) antennas.

Can be integrated in different vehicles.

· ILS GS:

High mast (height according to the user's needs up to a maximum of 30m) with ILS GS (328-336 MHz) antenna. Installed in a trailer, including generator, compressor and manual stabilizers.

Laser meter upon user's request







MAIN FEATURES

- Real-Time, Standalone & Autonomous data processing.
- Precise position determination (< 3 cm) of ILS/VOR receiver antenna based on GPS&GLONASS RTK processing.
- Monitoring of positioning quality and determination in real time of RTK error bound based on patented algorithm.
- Graphical interface based on touch screen located in the vehicle dashboard.
- Automatic configuration of GPS/GLONASS, ILS and VOR receivers without operator intervention.
- ICAO tolerances are automatically plotted in graphs.
- One-Man-Operation mode.
- Guidance provided to the driver during inspection campaigns.
- Automatic start/stop of data recording based on actual position, no manual operation needed.
- Automatic generation of inspection reports.

VERIFI	CATION REPOR	RT ILS_LLZ	BIFREQUENCY		
Airport	Runway RWY Category: 30R III		Indicative: MBB		
Sw Version: EMIL v1.0.1	Frequency ILS_I MHz	LLZ: 109.2	Nominal Width (°): 3.80209		
Support EMIL: 1	TEST: 11-May-2	2012 04:14:09	# Report: 16-May-2012 17:59:27		

			LO	CALIZER	COU	RSE STRU	CTURE			
	TX1 (11-May-2012 04:14:09)					TX	2 (-)		TOLERANCE	
	External A						nent (value			
	Correction by Sector Width (yes/no):				Correction by Sector Width (value): (-)					
	Mean	Minimum	Maximum	Dev.	Mean	Minimum	Maximum	Dev.	Minimum	Maximun
Alignment [°] / [μΑ]	- 0.0369368 /-2.99318		0.0840219	0.0932393 /7.55565		-	-	-	-4,2 μΑ	+4,2 μΑ
Modulation [%]	39.8606	39.68	40.07	0.0349441	-	-	-	-	36%	44%
Level RF [dBm]	-52.269	-67.8	-31.9	11.3465	-	-	-	-		
CRS/CLR Relation [dB] / (distance [m])		8.8 / 416.352				-				
Error DDM Threshold to Point D [µA]	-0.224507	.224507 -		-				5 μΑ		
Error DDM Point D to Point E [µA]	-0.376218				-				5-10 μΑ	
ICAO Localizer Course Structure [%]	88.6089			-						
GNSS Positioning Accuracy [°]/[µA]	0.00796644 / 0.645563				-					