LSGS/SIR
SION

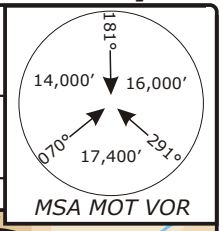
APP CHART NO.1
Revision 23 NOV 06

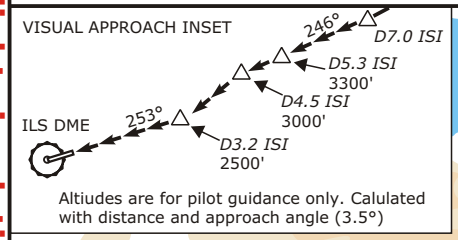
SION, SWITZERLAND
STEEP APPROACH 6° CAT A, B & C IGS Rwy 25

Swiss Radar LSZH_CTR 128.05	SION Approach LSGS_APP 126.82	SION Tower LSGS_TWR 118.27	SION Ground LSGS_GND 121.70	*LOC* ISI **108.35**	*Final Apch Crs* **246°**	*GS* ***D16.0 ISI*** **9900'** *(8319')*	*IGS DA(H)* Refer to Minimums	*Apt Elev* 1581' *RWY* **1851'** FS: *RWY* **1581'**

MISSED APCH: Climb initially on LOC crs 246°. At D7.0 ISI follow track 246°. When passing D5.5 SIO intercept R-070 SIO to SIO VOR. Leave SIO VOR on R-235, at D20.0 SIO turn RIGHT (MAX IAS 210 KT) establish on track 100° to intercept R-235 SIO inbound SIO VOR. Proceed via SIO VOR to MOT VOR. Climb to 17000'. Cross D20.0 SIO at 12200'or above and MOT VOR at 17000'.

Alt Set: hPa | Rwy Elev: 57 hPa | Trans level: By ATC | Trans alt: 16,000'





Gnd speed-Kts	70	90	100	120	140	160
ILS GS **6.00°** or Descent Gradient 10.5%	751	965	1073	1287	1502	1716

Flight Simulator-OPS

STRAIGHT-IN LANDING RWY 25

	Missed apch climb grad mim **3.5%** *DA(H)* A: **4670'**(3089') B: **4710'** (3129') C: **4740'** (3159')	Missed apch climb grad mim **3.0%** *DA(H)* A: **5320'**(3739') B: **5350'** (3769') C: **5380'** (3799')	Missed apch climb grad mim **2.5%** *DA(H)* A: **6020'**(4439') B: **6050'** (4469) C: **6080'** (4499')	**LOC (GS out)**
A	*5.0 km*			PROHIBITED
B				
C				
D	NOT APPLICABLE			

CIRCLE-TO-LAND
Not authorized
South of airport
DAY ONLY

Max Kts	MDA(H) — VIS
100	**3700'** (2119') 5.0 Km
125	**5400'** (3819') 5.0 Km
C	PROHIBITED
D	NOT APPLICABLE

Valid for flight simulation use only - do not use for real life navigation

CHANGES: Inclusion of Cross references to SIO for final Approach Procedure.

Special FS-procedures for IGS approach to runway 25 in Sion/LSGS

Requirements:

you **have to** install the small scenery-file that corrects the wrong IGS of Sion.
http://www.swissfir.org/Scenery/LSGS_IGS_AF2.zip

Background information:

Sion has a very special approach that brings you from FL170 down to a field elevation of 1583ft. The final approach point is located 25,6 NM from the IGS-transmitter and this causes some trouble as FS2002 and FS2004 seem to have a hardcoded maximum range of 20,7 NM for the glideslope-signal and 25,7 NM for the localizer! As a consequence pilots will have to use SIO VOR as the initial reference for their horizontal lineup on the final approach. On top of this, they need to start their steep descent at 25,6 DME of the IGS-transmitter with an initially missing glideslope-indication on their instruments! This document was created to prevent posible errors and to take away surprise.

Procedure:

You start your approach normally at *SANET* or direct inbound to *MOT VOR/DME*, at altitude 17,000ft on **the local QNH,** be sure to use the correct setting or you will see the mountains for the very last time!
After passing *VOR/DME MOT*, follow *MOT Radial-086* until DME 25 of *MOT VOR/DME*. There you need to turn left to intercept SIO R-067 (track 247°) inbound to the waypoint ***MASAB***, maintaining 17,000ft. For the turn all planes have a restriction of **maximum 210 KIAS** (knots indicated airspeed).
For that, shortly before reaching the end of the outbound leg (DME 25 of *MOT VOR/DME*) start slowing down to your intermediate approach speed, maximum 210 KIAS. You will probably need to use flaps to achieve this speed. Reach this speed **latest** at **24 DME** of *MOT VOR/DME*.
If you are not using a GPS/FMS for this procedure, start your left turn at 25 DME of *MOT VOR/DME* and perform a **90/45-intercept** of *SIO R-067* inbound (track 247° !). That means initially stop the left turn at a heading of about 336° (depending on the wind drift!) until you are passing *SIO* R-087 (track 267°), then turn further left to a heading of 291° as a final intercept heading.
Intercept and maintain track 247° to *SIO VOR/DME*, maintain 17,000ft. Only when established on *SIO VOR/DME* track 247° and when passing DME 27.1 of *ISI IGS* or DME 28.2 of SIO VOR (waypoint MASAB) start your descent to the final approach altitude of 16,000ft that you have to reach **latest** at *ALETO* (*ISI* DME 25.6 / DME 26.6 SIO VOR).

Shortly before *ALETO* the localizer-signal should become active and you can use it for the rest of the approach, so you don't need *SIO VOR/DME* anymore.

As you are **reaching** the final approach fix *ALETO*, you should be **fully configurated** because you will have to perform a very steep approach. Consider going to your final approach configuration already at ***MASAB***, as it will avoid a lot of sweating in your homecockpit.
If you are not fully configured you will speed up and be unable to descend properly in order to intercept the glideslope later on.
At *ALETO* start a descent at a vertical speed that makes you maintain the vertical profile of the approach. The vertical profile is a 6°-angle which corresponds a descent gradient of 10,5%. Multiply the gradient with your ground speed to get the required vertical speed. For example: 180GS * 10,5% = 1890ft/min.

Groundspeed (kts)	70	90	100	120	140	160	180
Vertical Speed (ft/min)	751	965	1073	1287	1502	1716	1890

Make altitude checks: at DME 21 of the IGS (*ISI*) you must be at **minimum 13,100ft**. At about this point the **glideslope** should become active and you should aim to **intercept** it **as soon as practical**. Complete the approach.

Proposed NAV-settings:

Situation	NAV 1, course	NAV 2, course
Outbound leg after MOT	MOT VOR/DME, 086°	SIO VOR/DME, 247°
Inbound-turn after MOT D21	ISI (IGS), 246°	SIO VOR/DME, 247°
Established on the IGS, GS active	ISI (IGS), 246°	SIO VOR/DME, 235°

CHANGES: Approach Procedures