



## **C1 Position Overview** **March 2021**

### ***Position Overview***

Control (CTR) is responsible for all enroute aircraft overflying the CTR FIR airspace and gives appropriate instructions to enforce proper enroute separation for all aircraft within the CTR FIR airspace. Control covers all Approach and Tower responsibilities on a top-down basis, in the case of the local Approach or Tower position being offline at the time. Departing aircraft, leaving the TMA towards the FIR airspace will typically be handed over to CTR when the aircraft is close to reaching either the horizontal or vertical boundaries of the TMA and FIR. Aircraft within CTRs airspace, inbound a controlled TMA will typically be handed over to APP shortly before entering the TMA, both horizontally and vertically. Upon leaving the FIR airspace, aircraft are handed over to the next sector controller if they are available, or an appropriate Eurocontrol Flight Service Station. The main objective of a CTR controller is to ensure safe enroute separation between all aircraft within the FIR airspace and also to create a safe distance and separation for aircraft inbound on the same STAR or airport, whilst making sure that this is done in a both time- and economy-efficient manner.

Upon connecting to the VATSIM network as a CTR controller, one shall select the active runways for the aerodromes which the CTR position covers within the given FIR and top-down aerodromes. As a CTR controller, one should coordinate with APP or TWR or surrounding CTRs if applicable regarding current operations, winds, runways, etc.

### ***Separation***

All enroute aircraft within the Sofia Control airspace shall always maintain a vertical separation of minimum 1000ft within RVSM (Reduced Vertical Separation Minimum). RVSM airspace is active between FL290 and FL410. Above FL410, aircraft must be separated by 2000ft, so they must stay at FL410, FL430, FL450, etc. Aircraft flying westbound above FL410 shall stay at either FL430, FL470, FL510, etc, whilst aircraft flying eastbound shall stay at FL410, FL450, FL490, etc.

Enroute horizontal separation must maintain a minimum of 10nm separation. This may be reduced to 7nm if needed if one more aircraft in-question is in a climb or descent. Enroute separation can be maintained through speed control, vertical control (altitude), horizontal control (vectors) or a combination of two or three of these.

Horizontal separation can be maintained by an ATC if they either give a route-direct to a waypoint within their flight-plan, or if the aircraft is given a heading to fly. Vertical separation can be maintained by an ATC if they instruct the aircraft to fly a specific altitude. Speed control can be achieved if the enroute ATC asks the pilot for their indicated airspeed or mach number and then instructs the aircraft to fly at or above a specific speed/mach, to maintain that speed or to maintain that speed or below. Any speeds above FL250 must be given and received via a mach number.

**ATC:** LZB451, report your mach number.

**LZB451:** Mach .77 (decimal 77), LZB451.

**ATC:** LZB451, roger, maintain Mach .76 or below.

Many aircraft that are in Sofia airspace may have destinations that are in Bulgaria or in surrounding countries and would hence have to start their descent whilst in the CTR airspace. The agreed levels are discussed below, however, if an aircraft is cruising and has to start descending whilst in Bulgarian airspace, the term: "When ready, descend..." shall be applied. This means that the aircraft may commence descent when the aircraft reaches the top-of-descent point.

**ATC:** LZB971, when ready, descend FL190, level by TOTKA.

**LZB971:** When ready, descend FL190, level by TOTKA, LZB971.

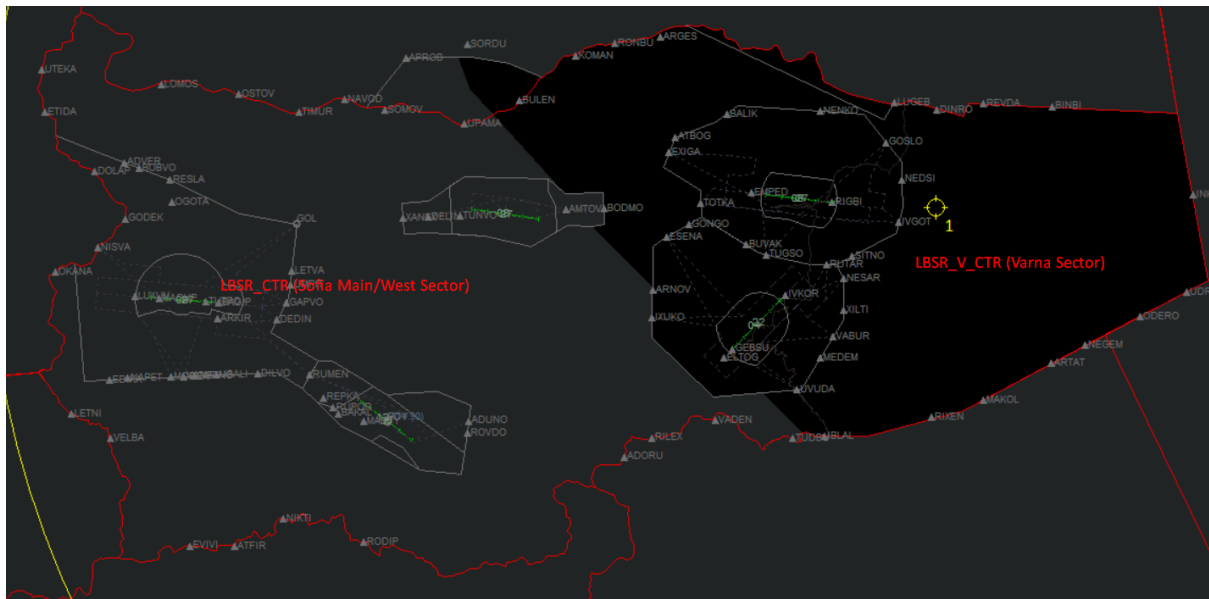
### ***Sofia Control***

Sofia Control is responsible for all aircraft movements within the Sofia FIR, starting from FL105 and ending at FL660. As mentioned previously, CTR also covers all TMAs and some aerodromes on a top-down basis. Sofia Control covers the three main TMA airspaces - LBSF, LBWN and LBBG top-down if local ATC is offline, the respectable TWR positions too and also LBPD and LBGO TWR, which are both procedural airports. Any other smaller VFR airfields are typically not covered by CTR. However, in addition to handling any IFR traffic above FL105, CTR can also provide VFR flight following if the VFR pilot below FL105 requests so. It is then the controller's discretion whether or not they would like to offer flight following services to the pilot. This is encouraged, unless the CTR airspace

is already busy and overloaded and the CTR controller is unable to provide the pilot with VFR flight following.

Sofia Control is split up into 2 main sectors (this may be subject to change). These are:

- LBSR\_CTR (Sofia Bandbox - 131.225MHz) - Main Sofia Bandbox Sector, upon split positions, covers the Western part of the FIR.
- LBSR\_V\_CTR (Varna Sector - 134.700MHz) - Covers the Eastern part of the FIR



In addition, Sofia also has a special "Sofia Information" position (LBSR\_I\_CTR), designed specifically to offer flight information services to VFR aircraft in class G airspace.

The Sofia FIR borders with 6 FIRs - Bucharest (LRBB), Belgrade (LYBE), Skopje (LWSS), Makedonia/Athens FIR (LGMD/LGGG), Ankara FIR (LTAA/LTBB) and Simferopol FIR (UKFV).

- The Bucharest FIR is mostly staffed by **LRBB\_L\_CTR**.
- The Belgrade FIR is mostly staffed either by **LYBE\_CTR**, **ADR\_E\_CTR** or **ADR\_CTR**.
- The Skopje FIR is mostly staffed by either **LWSS\_CTR** or **ADR\_CTR**.
- The Makedonia/Athens FIR is mostly staffed by either **LGMD\_CTR** or **LGGG\_CTR**.
- The Ankara FIR has a subsector (LTBB) that borders LTAA on the LBSR border, which means handoffs can happen into both FIRs. The full Ankara FIR Sector is mostly staffed by **LTAA\_CTR**, which also covers LTBB, whilst LTBB can also be covered by **LTBB\_CTR**.

- The Simferopol FIR is mostly staffed by either **UKFV\_CTR** or **UKR\_CTR**.

### ***Sofia Shared Airspaces***

Bucharest and Sofia FIRs share two bits of airspace on the border of the two FIRs. These two sections of the airspaces are shown in green in the image below:



The airspace more to the west of the airspace, between LAVOD and KOMAN is in Romanian land, however, is covered by LBSR\_CTR **above FL245**. This means that any flights entering this airspace below FL245 must contact Bucharest before entering this area.

Similarly, the airspace to the east of the airspace, between ARGES and LUGEB is covered by Bucharest (LRBB\_L\_CTR) above FL245 and is covered by LBSR below FL245.

### ***Free-Route Airspace***

The Danube FAB (Functional Airspace Block, consisting of Bucharest and Sofia FIR) have an agreed procedure set in-place for giving route-directs, known as Free-Route Airspace (FRA). FRA is a procedure which allows both Sofia to give aircraft route-directs into Bucharest airspace (including any Bucharest border that the aircraft will overfly) and also allows Bucharest to give route-directs into Sofia airspace. This practice is commonly used in real-life and can also be applied on VATSIM. Generally, when both Bucharest and Sofia are online, they will coordinate with each other about activating FRA, so as a controller on Sofia Control, one must always remember to coordinate appropriately with Bucharest before applying FRA.

### ***Handoff to next station***

A handoff to the next enroute station of an aircraft shall be initiated no less than 20nm prior to the FIR boundary. A good measurement is somewhere between 2-3 minutes prior to an aircraft crossing the border, or 20-40nm prior to the

aircraft crossing the border. In case an aircraft has to be handed off to an Approach station, it is advised that the aircraft is handed over a bit longer than this, in order to allow ATC and the pilot of the aircraft to plan for the arrival.

### **Agreements with surrounding vACCs**

Sofia Control holds various agreements with the surrounding FIRs. (*Note, this may be subject to change if local procedures change on new cycles*).

### **LTFM/LTBA Arrivals**

A lot of traffic arriving into the two Istanbul airports pass through the waypoints RILEX and RIXEN, which are both border waypoints with Sofia and Ankara, and also STAR fixes. This means that aircraft inbound to these waypoints will often descend within Sofia airspace. This is why it is important to make sure that the correct descent procedures are given to these aircraft.

In real life, when an aircraft inbound LTFM or LTBA requests descent, Sofia Control clears this aircraft for the active STAR for RILEX or RIXEN, depending on the runway and clears them to descend to the required FL for this point. The active STAR for RILEX and RIXEN shall always be confirmed with Ankara or Istanbul if they are online and Sofia shall ask Ankara about the active STAR.

### **LTFM Arrivals**

- For **RIXEN1A** arrivals, aircraft shall maintain **FL210 or below over RIXEN** and must be handed off to LTBA\_APP.
- For **RIXEN1B** arrivals, aircraft shall maintain **FL190 or below over RIXEN** and must be handed off to LTBA\_APP.
- For **RILEX1A** arrivals, aircraft shall maintain **FL310 or below over RILEX** and must be handed off to LTBB\_CTR or above.
- For **RILEX1B** arrivals, aircraft shall maintain **FL270 or below over RILEX** and must be handed off to LTBA\_APP.
- *Note:* Because the altitude restriction is a maximum FL restriction, ATC may descend aircraft below this altitude for tactical separation purposes.

### **LTBA Arrivals**

LTBA arrivals are a bit simpler. Important points to note other than RIXEN and ADORU are **ATVEP**, which is the inbound point *after ADORU*, and also **GINLI** which is *after RILEX*.

- When **runway 05** is active at LTBA, arrivals inbound **ADORU** must be at minimum **FL230 or below over ATVEP** and must be handed off to LTBB\_CTR or above.
- When **runway 23** is active at LTBA, arrivals inbound **ADORU** must be at minimum **FL270 or below over ATVEP** and must be handed off to LTBB\_CTR or above.

- When **runway 05** is active at LTBA, arrivals inbound **RILEX** must be at **FL230 or below over GINLI** and must be handed off to LTBA\_APP.
- When **runway 23** is active at LTBA, arrivals inbound **RIXEN** must be at **FL260 or below over GINLI** and must be handed off to LTBA\_APP.

#### **LROP Arrivals**

- Arrivals inbound **SORDU** shall maintain **FL130 over SORDU**.
- Arrivals inbound **OBUGA** shall maintain **FL150 over OBUGA**.
- Arrivals inbound **OSTAL** shall maintain **FL170 over OSTAL**.

Any other descents into airports outside of Bulgaria can be coordinated with the next sector controller or alternatively, controller discretion can be used, as the pilot would manage the descent points as per the aircraft's vertical descent profile.

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