

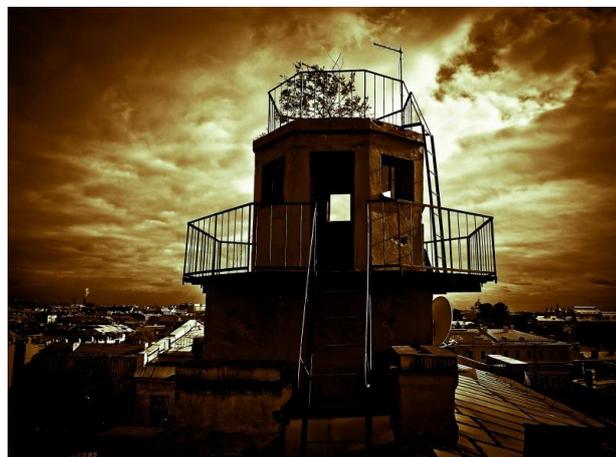
## Roof top long

In the late 30's, early 40's of the XX century almost the whole St. Petersburg was covered by Air Defense Towers, and we are at one of them now. In most of these towers air defense soldiers carried out their post, and were engaged in extinguishing of incendiary bombs during attacks and more. The abbreviation ADT stands for local air defense. Generally AD soldiers had to warn citizen about the threat of air attacks and, to eliminate the consequences of attacks.

Special courses for Staff training was arranged and the main functions of AD soldiers was reduced to watch over the sky, another words, for enemy aircraft, warning the inhabitants in case of air attack with the help of especially made device named the Howler. In some cases, fighters could hold anti-aircraft fire on to swooping down enemy Airplanes-bombers, because these towers were armed with anti-aircraft guns with a speed of 1200-2000 shots a minute and an altitude of 1400 meters cover or legendary type ZT-5 soundcatch equipment - several working stations equipped by ZT-5 allowed them to identify approaching enemy aircraft up to 9 kilometers away.

All posts were equipped with telephones, messages from them were sent to headquarter and plotted on a map as to keep updated. When the War began on 2 July 1941, a decree was adopted according to which all Soviet citizens aged 16 years had to master their knowledge of the AAD. Of course, the AAD fighters were not all soldiers, Already on July 23, 1941 on the roofs and attics of residential and industrial buildings, 24-hour duty posts of self-defense groups of the ADD teams were established and measures were taken to prepare the city for air attacks.

Of course, the AAD towers beauty had no meaning nor strength, nor time. During the period of protection from the enemy the city had thousands of shells dropped on it, and dozens of observers who were on duty depended on the lives of people around the controlled area. This voluntary duty consisted generally of local teenagers. One can only imagine how exhausted the boys and girls of the siege of Leningrad were after climbing up the windswept towers, having taken over regular duty. The first bombs were dropped on Leningrad on September 6, 1941, and in December began the almost daily shelling. Thanks to the AAD volunteers from September to December 1941 about 12 thousand fires from bombs and shells were eliminated.



During the entire period of the great Patriotic war about 7 million explosive items were found, defused and destroyed. In fact this was the main task of AAD fighters to combat incendiary bombs, because towers are mostly located in parts of the old pre-revolutionary buildings, where wooden beams, joists and rafters could give great food to the fire and cause a fire to spread to a large area. Here fire must be localized immediately, because the consequences could be massive.

Fire bombs heated up to 3000 degrees Celsius and these bombs were stuffed with special thermal mix which heated its body and burned through the roofs in 30-35 sec. In order to eliminate the effect of the bomb they would use lead mittens and tongs to grab the bomb and throw it off the roof or to put it to container filled by sand or water.

Later, they abandoned the water in containers because of high temperature the liquid began to evaporate and fighters could hurt or even burn their faces. And even decades later in the 50's, 60's, Leningrad, recalled that they had repeatedly met people with black stains on their faces from burns – traces of extinguishing the fires. As stated in history, in time of war, women-Red Army soldiers carried their poston at these towers, who watched over the prospect of Leningrad for cases of fire, or enemy aircraft coming or other strange events. And there were more than 17,000 such women in the divisions of antiaircraft defense.

By the way, there is a very good view to the cupola of Saint Isaac's Cathedral and the spire of the Bell Tower of the Peter and Paul's Cathedral. These points were as the main targets for the Nazis during the bombing of the City. It is not by chance that these are the two highest buildings in the historic center of St. Petersburg at 122.5 and 101.1 meters.

Also I would like to add a few words about the history of the AAD. Monitoring system which is purposed for the horizon watching and the detection of air targets began to form in Russia since 1913 when it was proposed to create a special network of observation posts along the southern coast of the Gulf of Finland on the Petersburg — Riga line (the project of Russian aircraft designer A. A. Porohovschikova). Even then, the purpose of these stations included aircraft detecting and to report the fact of their flight and the direction to commanders concerned.

After detecting an aerial object, the observer had to report to his commander. During the First World War Sky Monitoring System took its birth, after some development it became a part of air defense systems. Speaking about the days of today, in recent years, with the help of enthusiasts and fans of walking along the roofs, the geography of famous towers have now been fully restored. There is information about 165 towers, including the 8 completely lost. Originally there were about 180 units.

The last "towers" are situated on buildings constructed in 1955, it seems the system was supposed, if necessary, to be brought back into alert readiness, and use it after the war too. However, during the years, many towers became dilapidated or are falling apart, but still stand. Nowadays towers are administrated by Ministry of Defense, although judging on how the towers look they don't care about them. We noticed this year that "street artists" draw on AAD Towers as the art objects, so they look new and very fresh.



The first such tower appeared at the beginning of May 2014 in the courtyards on Ligovsky prospect, named "TARDIS", because it was designed like a phone booth from the TV series "Doctor Who". Look, at this tower straight in front of you. The next tower has appeared on Vasilievsky island and was called "English phone booth". The next tower appeared on the Vasilievsky Island and was called the "English Telephone Box" Unfortunately, the proximity to the administrative building, as well as very good visibility from the sidewalk, actually killed this tower almost immediately. Literally, 2 days later, painted a normal gray color.

## Part 2. The story roofs)

Fortunately, today we have a peaceful sky over the head, without any threat to us we can admire St. Petersburg from a bird's eye view. Interestingly, St. Petersburg's roofs could become a visit card of the City, as happened in Netherlands and in Czech Republic. Peter I, impressed by traditions of construction in Netherlands, ordered to cover roofs of "pattern" houses for famous people in Saint-Petersburg by a gable tile. They were 1/2 to 3/4 the height of the building and served a purely utilitarian task, in fact, were not elements. As for roofs of other resident's houses it was covered with boards, lathing or even just tree bark and turf.

However, the fashion for tiled roofs did not last long. Under Peter I during repairs and new construction of the roofs he began to use sheet iron. The first example was Peter himself, using iron on the Summer Palace, and by the middle of the XVIII century, the capital was full of mainly wooden and iron roof and tile is almost gone. Rumor has it that the merchant Demidov made a request to the king, in order to maintain the Urals metallurgical industry. The result – Peter issued a decree according to which all roofs in Saint-Petersburg were to be covered with metal. So the roofing of sheet iron is a St. Petersburg tradition.

Although, it was probably not just caused by Demidov. The tile covering was much heavier than wooden cover or iron sheets. For tile large gradients of slopes were needed, so it required repairing more often. According to documents, hurricanes quite often carried roof tiles from roofs. So it was in the autumn of 1715 and in 1721 and, also, from fire-preventive point of view iron roof was safer than others.

The Russian capital was literally overwhelmed by the construction of apartment houses in the XIX century. Urban development was caused by high cost of land in the city centre and has entailed a lot of well-shaped courtyards. Their owners in the pursuit of profit would arrange mansard housing for the poor in the attics. Esthetic aspects of the roofs faded into the background, these houses are often built without the participation of architects. Besides, varied in outline turrets, the intricate patterns of the weather vane on them, pitched roofs, its eaves, attics and chaotically protruding chimneys, flowing in at the panorama of St. Petersburg, impart to it a fancy-shaped form.

At the same time a brand new innovative of engineering solutions in construction declared itself as three-dimensional rod metal construction, large-span ceiling atriums, arched floor trusses industrial buildings and etc. At the turn of XIX-XX centuries the style of "modern" in particular sounded eclectic tastes, rapidly manifesting itself in a short time in the work of many famous architects of that time (F. Lidval, P. Suzor, R. Meltzer). The main feature of this style was asymmetry of the schemes-plan, relief drawing of facades.



And it was done completely in vain. Recently, while repairing the roof on one of the buildings on the Petrograd side that since the roof decking was installed (in 1911!) it was never capitally repaired, because it was not necessary, and many sections of the roof remained in good condition. What is the secret of the old-school method? First of all, at that time they used a very soft metal which did not give microcracks in the bend. The next advantage of our predecessors was that they had at their disposal a large number of workers who also worked not for fear but for conscience.

I think you have already noticed that the height of all buildings in the historic centre of Saint Petersburg is about the same, so the view from the roof to all directions goes to infinity. In 1844 the Emperor Nikolai I issued a decree which forbids to build in St. Petersburg building higher than the Winter Palace. According to this document, ordinary houses were to be built by at least one fathom below. Temples are the only building that could be higher than the Royal residence.

This action was caused not only by desire to distinguish the supremacy of power, but purely by pragmatic thoughts. It was very difficult to construct a high, and as a result, heavy building on the marshy soil of St. Petersburg. It is known, for example, that under St. Isaac's Cathedral foundation, whose height is 101.5 m, more than 10,000 piles had been hammered and its construction took about five years, and much more time has passed for building shrinking. Additionally, due to such strict restrictions for height of buildings a single shape of the city face with a distinctive urban feature has been formed - with predominance of horizontal lines against vertical.

Later, the academician Dmitry Likhachev referred to this phenomenon as "skyline of Petersburg". The decree of Nikolai I was valid until 1917, but after the revolution there was not any restrictions established in St. Petersburg in this case. Not so long ago, in end of 2015 in order No. 972 it was amended and returned to historical norms – according to it the height of the buildings facades along streets may not exceed 23-25 m to the eaves and 28-33 m to roof ridge. It is hard and very inconvenient restriction, but to preserve the most significant urban panoramas it is needed. Otherwise there is a real threat of losing the integrity of the historical silhouette of great city.

From a birds-eye view, the city seems quite different. Famous cathedrals, ancient courtyards, monuments and ordinary buildings look very different. There is no bustle of St. Petersburg's streets, but only the sky and the breath of the city, the thoughts and feelings of the past and present. Rooftops of St. Petersburg are especially romantic. Enjoy your stay. We look forward to your feedback on our website and social networks. Thank you for coming.