



The mighty **FLAK TOWERS**



On 24 August 1940, a German JU88 bomber, commanded by major Rudolf Hallensleben who went on to win the Knights Cross for other deeds (on May 11th, 1943), accidentally strayed over London - during a raid on Thames Harbor - and dropped bombs in the east and northeast parts of the city. A morally enraged Churchill ordered a retaliatory attack on Berlin and the following night 29 RAF bombers hit the German Capital. Although actual damage was slight and casualties few, reports indicate that Hitler was infuriated (he might have believed Goering's boasting of August 1939, that if just one enemy bomber ever reached the German capital, he would change his name to "Meier") and shortly after, on September 9th, he ordered the construction of the monumental FLAK towers to protect major German cities.

If Hitler, who had a taste for the occult, also was haunted by some sinister premonition of what was in store for Berlin later on, he was right. The record shows that the German metropolis was subject to no less than 363 air raids during World War II; it was bombed by the RAF Bomber Command between 1940 and 1945, and by the USAF Eighth Air Force between 1942 and 1945, as part of the Allied campaign

of strategic bombing. Berlin was struck 90 times in the last two months alone by waves of up to 2000 bombers, last attack taking place on Hitler's birthday on April 20th 1945. After that the Red Army took over, pounding the city with artillery and flying numerous sorties, bombing defensive positions and strafing the streets. Demonstrating their "Berliner Schnauze" - the renowned Berliner humor - Berlin's air raid sirens was known as "Meier's hunting horn."

During these campaigns the firepower of the Flak towers were widely respected by Allied airmen, and even though the fortresses cannot show an impressive track record in terms of downed airplanes, their mere presence must have had a repellent effect.

Three tower groups (gun tower and fire-control tower) were built within a very short period of time, in an attempt to shield the city from aerial bombardments. The first group was located in the Berlin Zoo, the next at Friedrichshain and the third and final at Humboldthain, thus forming a large triangle around the city center just north of the Government quarter and the Führerbunker. Three more tower groups were planned, but never built.

A word of apology from the editor...

The first 2011 issue of The War Tourist, which you have in front of you, after a long and troublesome birth, eventually turned out to be a special or "Theme Issue" as mentioned on the front. As regular readers will have noticed, a dramatic drop in circulation has occurred - from the announced six issues per annum to, so far, one.

There are several reasons for this. I do not want to burden you with my private problems, but the main obstacle is my dire problems with my eyesight, which makes writing a slow and tedious process.

(By the same token; please be tolerant with the inevitable typo's).

I now aim to send out two TWT Mags a year, but let's see. Hope you are happy with this issue, and if so; pass the good news (and the link) on to your friends ;-)

Winning hearts and minds

It goes without saying, that any museum, exhibition or attraction in the field of battlefield tourism wants to give the visitors the best possible experience. Likewise will visitors value the opinion of others, who were there before, in order to decide what to see. Hence the rating table.

Each location visited will be rated using the following gradient, where five red hearts constitute the best possible score and five white hearts - well, not so good ;-). Rating **solely** reflect authors private opinion, and hearts may be gained also for excellent service, guide knowledge or amenities, and lost due to overdoing the commercial aspect, poor service or i.e. for forbidding photographing.

- ♥♥♥♥♥ (5) An absolute must-see
- ♥♥♥♥♡ (4) Worth your while
- ♥♥♥♡♡ (3) An OK experience
- ♥♥♡♡♡ (2) A tad stale, perhaps
- ♥♡♡♡♡ (1) Make no detours for this
- ♡♡♡♡♡ (0) Read a book instead

Not a member yet..?



The War Tourist Group on facebook is a rendezvous points for the seasoned devotee of battlefield sightseeing and touring the great fortifications throughout

history, focusing on the two World Wars. It is a place for war history cadres to meet, and to share photos, data and links to places of interest. "Knowledge not shared is lost" as the saying goes, so discussions should thrive here, for mutual benefit.

Members receive the TWT Magazine in their mailbox as issued and are strongly encouraged to **contribute** with their own articles and photos.

Berlin - du hast mein Herz gestohlen...

Battlefield tourism, the activity of traveling to battlefields and places of war history, has achieved a dramatic increase in popularity in recent years, and with a steadily broadening audience. Looking back just a few decades, battlefield tourism - if such a concept at all existed - was synonymous with visiting distinguished places such as medieval castles, Hastings or other locations of ancient conflict. That have changed a lot. Regular folks now find it acceptable - even interesting and educating - to visit the fortifications along the Atlantic Wall as well as the many sites that hide in many European capitals.

Berlin draw the war tourist like a magnet. I have been there many times and I newer tire of the city. If Berlin is new to you, an almost bottomless treasure trove awaits you. Although the city center to a great extend was rebuilt after the Second World War, the streets and buildings virtually oozes with history, both recent and old. Few other European capitals have experienced so many paradigm shifts within such a short period; from the relatively tolerant and open rule of Frederick the Great over the rigid militaristic period of the Emperors, followed by a brief period of democracy as the

Weimar Republic tried to pick up the pieces after the Great War, just to be quickly overrun by twelve years of Nazi tyranny. Battered, beaten and laid to waste, suffering tremendously during the spell of fear and hope in April '45, as the ferocious battle for the city raged, the tormented Berliners that did survive Armageddon and slowly recuperated whilst they were clearing up the ruins and trying to put their lives together again then woke up one morning only to find their city divided and fought over by two opposing ideologies; a schizophrenia that was to last for almost three decades.

The traces from all this hardship are still there, you just have to look for them. In this and coming issues of the TWT Magazine, I will try to give some glimpses of what intrigues me in modern day Berlin and make me love this city. I will focus on the remnants of WW2 and the Cold War, but imprints from other époques will slip in inevitably. I do not have a fixed editorial plan, not a clear overview, not even a red thread - yet, so you will simply have to hitch the ride and see...

As always, positive criticism will be well received.

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The Berlin Bunker, then and now. © After the Battle, No. 61, 1988.

Manpower drain. © Armchair General Magazine, November 2010

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A war tourist treasure trove



German resistance: German efforts to come to terms with their Nazi past has led to the renaming of many streets and squares in Berlin. Befittingly, one must agree, Bendorstrasse is now Stauffenbergstrasse, thus honoring the man whose name has become the epitome for German resistance against Hitler and Nazi rule.

It was here in the so-called Bendorblock, the Wehrmacht HQ or OKH, that the drama of July 20 unfolded. Having left Wolfchanze in the firm conviction that the Fuehrer was as dead as Julius Caesar, Claus von Stauffenberg flew to Berlin and joined his fellow conspirators at OKH from where they tried to organize a coup d'état.

As Hitler was able to persuade Major Rehmer over the phone that he was alive and that consequently OKH orders should be neglected, the coup eventually failed.

Stauffenberg and several others were shot in the courtyard of Bendorblock.



The System strikes back. This location may not look much at first glance, but you immediately feel a shiver down your spine when entering. The shed looks like a garage - apart from a steel beam just below the ceiling at the far end of the room. The beam is furnished with butchers hooks, a 1942 addition, but the shed is not a slaughterhouse, although the analogy is not too far fetched.

This is the execution room of the nearby Plötzensee Prison and close to 3000 people lost their lives here during the period of National Socialist regime, which unpleasant fact may account for the visitors feeling of queasiness.

Most notably, the "July 20th criminals", the resistance fighters taking part in the attempt on Hitler's life at Rastenburg; officers Stieff, Olbricht, von der Schulenburg and several others along with politicians such as Carl Friedrich Goerdler, the former mayor of Leipzig and many more were hanged here.

Hanged in piano wires from the meat hooks, you see today. And filmed for Hitler's evening entertainment.



German surrender. Karlshorst, in the borough of Lichtenberg, is the place where Keitel signed the Instrument of Surrender on May 8th, fifteen minutes past midnight, thus formally confirming the surrender of the previous day and putting an end to the Second World War.

Karlshorst, originally a mess hall servicing the Imperial German Army and briefly Marshal Zhukov's headquarter during the Berlin campaign, is today a museum and a special one as it is a joint endeavor between the German and Russian authorities.

Although a recreation (the Russians smashed the furniture in a wild party following the surrender ceremony), the room where the event took place is nicely renovated and looks as if the participants left only hours ago.

A little out of context maybe, but nonetheless interesting is a small outdoor exhibit sporting several armored vehicles that partook in the Battle for Berlin, i.e. a T34 tank.

Victors prize. Dating back to 1894 and serving as home for the German parliament until the Nazi takeover in 1933, the impressive building on the bank of the Spree river has seen governments come and go, systems rise and fall and experienced fires, bombings and shellings and fierce, hand-to-hand combat in the final days of the Berlin battle.

Capital prize of the Red Army, and symbol of the conquest of Nazi Berlin, the Reichstag



Soviet bloating. Although it is pompous, even a tad vulgar maybe, or perhaps exactly because of this, the monumental tribute to the fallen Soviet soldiers, victims of the Battle for Berlin, cannot help touch me every time I visit the place.

The massive gateway, clad with marble taken from the New Reich Chancellery (!) dramatically frame the twelve meter high statue of Sergeant Nicolai Masalov, who allegedly save a three year old girl at the Potsdamer Bridge. The statue depicts a Soviet soldier holding a small girl on his arm and for some inexplicable reason a broadsword in his hand (one might have expected the Red Army to be better equipped) while he symbolically crushes a swastika under his foot.

5000 Soviet soldiers are interred here where the rectangular cemetery is adorned by marble sarcophagi where the wise words of Father Stalin are carved... well, in marble.

building was left largely as a ruin after WW2, (see insertion) to be restored into former splendor only after the reunification in 1990.

The battle scars are still there, just look at the patched-up columns at the entrance, and if you ascend to the roof top, you can still find cyrillic inscriptions in the stone walls.

Make your visit early as a line forms very rapidly, making a waiting period of more than an hour the rule rather than exception.



Monster-size concrete castles were Hitler's solution to

Repel the enemy

The Berlin FLAK Towers

The Berlin Flak towers were all sturdy, first generation towers, considered impregnable because of their thick concrete walls and roof and there immense firepower, impressive even by today's standards.

Besides their anti-aircraft function, the towers also served as shelters for the civilian population, designed to accommodate up to 15.000 Berliners each, but in the days of the final battle for the city up to three times that number are reported to have sought refuge in these fortresses. Art treasures and archeological artifacts from fourteen Berlin museums were also stored in the towers for safekeeping.

The planned, but not built towers were to be placed with two more in the Zoo area and one at the Templehof Airport to the south. A modification of the 1894 Reichstag Palace to air defense purposes was also considered, but the idea was eventually abandoned as the building was deemed structurally unsuitable.

After the war, all flak Berlin towers were attempted torn down, some with greater luck than others. The "Zoo-bunker", undoubtedly the most well known of the three, was completely demolished and the debris removed, whereas the Friedrichshain tower was blown

up and buried under a huge pile of rubble from bombed-out Berlin, and appears today as just a slope in the terrain with very

Flak towers were also erected in Hamburg and Vienna, Austria, as well, and planned for Munich and Bremen. Most of those were of the leaner 2nd and 3rd generation, developed as supplies of concrete and steel declined at the end of the war. Post-war, some of the towers in Vienna and Hamburg were converted to other purposes.

January 25, 1944

"I was recently with Klaus in the Zoo bunker during the seven o'clock air raid. Ghostly. A heard of people in the darkness, running like animals - while the anti aircraft guns had already opened up - towards the entrances; too small and much too narrow. Flashlights are lit and everybody shouts: 'Turn off the light!'. People are pushing and pressing on and it is really a wonder that it turns out alright.

The walls of the bunker, mighty monoliths, resembles the stage for the prison chorus in "Fidelio" (Opera by Beethoven). An elevator, lights on, is going up and down without a sound, apparently catering for the sick. Ernst Jünger might have described it all in his "Capriccios". Rude policemen and officers heard the unwilling crowd up the stairs for distribution on the various floors. For every new floor, the crowd grinds to a hold. A woman broke down screaming. She was convinced, that she would be in greater danger on the upper floors. 'I have a husband and a son at the front', she shrieked in a high-pitched voice, 'I am not going up there!' At long last she was taken away. The towers have spiral staircases. Loving couples seek them out - a travesty on a carnival.

When the anti aircraft guns on the roof are firing, the building trembles and all heads duck as if a reaper was swung over them. People are standing pell-mell; scared bourgeois, weary wives, shabby foreigners dragging all their belongings with the in huge sacks and soldiers, emitting an air of embarrassment. I thought: God have mercy upon us if panic strikes."

Ursula von Kardorff, „Berliner Aufzeichnungen“ (Berlin diary) 1942-45. © 1963. My translation.

little concrete visible. Although also attempted blown up, Humboldthain is the only tower that remains partly intact and accessible to the public.

Autonomy

The towers were autonomous entities, capable of sustaining life for their inhabitants for a prolonged period of time. In fact, some post-war estimates speak of a period up to one year! Be that an over-estimate spurred by ignorance and their wicked and impressive appearance, it nonetheless illustrates the respect connected with these medieval type fortresses.

It is a fact that each tower had its own freshwater well, its own power station with underground supplies of fuel, huge storages of ammunition, food and other necessities, their own kitchen, dormitories and amenities right down to a fully equipped 95-bed hospital with eight doctors, twenty nurses and thirty aides. One tower even had a maternity ward where several new Berliners were born during air raids. Two cargo elevators could transport not only ammunition and supplies, but also patients up and down inside the tower.

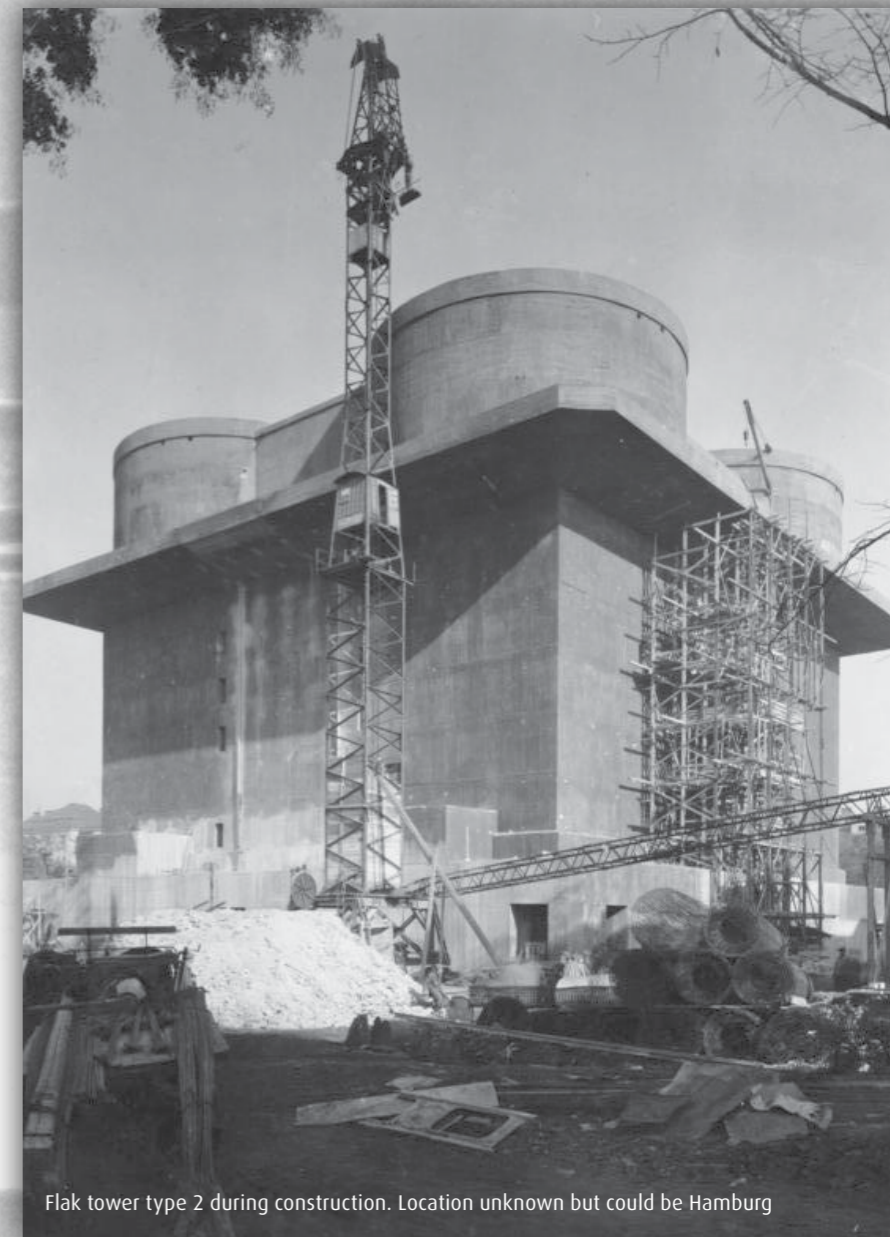
Air raid shelters

The role as refuge for the civilian population and the conditions, the inhabitants had to endure, threefold cramped inside the creepy environment, is described in sickening detail by Armin Lehman in his book; "In Hitler's Bunker": "Men, women and children would exist for days on end, squashed side by side like sardines, along every corridor and in every room. The lavatories would very quickly cease to function, clogged up by overuse and impossible to flush because of lack of running water. The passageways of the hospital units became make-do mortuaries for the dead, the nurses and doctors fearing death themselves if they dared venture outside to bury the corpses. Buckets of severed limbs and other putrid body parts lined all the corridors." Not much more to say here...

Design

The early towers were designed to gain maximum stability through independent load-bearing properties in outer walls as well as in the inner storey partitions. With a wall thickness of 2.6 meters and a roof of 3.80 meters steel reinforced concrete, all poured in one process without vulnerable joints, the outer casing was virtually impenetrable for all but a direct hit from a very large bomb. Thus, a collapse of a wall or storey partition would not affect the overall integrity of the tower.

The G-towers had six stories, where ammunition was stored in chambers at ground level and transported to the gun platforms



Flak tower type 2 during construction. Location unknown but could be Hamburg

by paternoster hoists. Level two and three served as civilian air-raid shelters, level four was designated for the dressing station and for various administrative and

workshop use. Levels five and six were strictly military and required special passports to access.

Construction

Being novelties in bunker design, the architect job was entrusted one of Fritz Todt's close associates; Dr. Friedrich Tamms. It is sometimes rumored that the architect was Hitler himself, and it is true that he initially produced a few sketches (resembling sinister castles straight out of Tolkien), but the final design was, despite some outer similarities, much different from The Führer's plans. Tamms presented the first layout and a model to Albert Speer, at that time General Building Inspector for the Reich Capital,



Three generations (Bauart) of Flak Towers. Berlin towers were all Type 1

on October 25th, 1940, and Speer agreed in essence. On March 6th, detailed plans were ready for the contractor.

The job was given top priority – to the extent that even the German Railways was ordered to alter their timetables to be able to deliver 1600 tons of material every day – and the tower in the Berlin Zoo was erected in just six months. A stunning achievement considering that to reach a wall thickness of two and a half meters and a roof three meters thick, the construction required 78.000 tons of gravel, 35.000 tons of cement and 9.200 tons of steel along with 15.000 cubic meters of wood for the scaffolding. Like the men at the building site, the railway worked round the clock and barges swarmed the Spree River with materials, supplying a further 500 tons each day.

Work progressed day and night, so when a British night raid was reported in progress by the night-fighter radar stations in the Kammhuber-line, all lights went out on the building site, giving nearby Berliners preliminary notice of what was in store even before the sirens began to wail.

The Humboldthain towers

A Flak tower group, Bauart 1, consisted of two towers, a G-tower and an L-tower, some 3-500

meters apart and connected by an underground cable duct. The Humboldthain towers were built between October 1941 and April 1942 at an estimated cost of 90 M Reichmark.

G-Tower

The **Gefechtsturm** or battle tower depicted above, measuring 70 by 70 meters square and raising some 40 meters and six stories above ground level, was the gun platform where an array of heavy armament pounded the sky with grenades of various calibers. To support the massive weight of the tower, it rested on a slab of steel reinforced concrete two and a half meters thick. Outer walls were up to 2.6 meters thick and the ceiling 3.8 meters. The average use of rebar was 50 kg per cubic meter of concrete.

The ground floor had three entrances to the north, east and south, one of them large enough to accommodate ambulances and even trucks, and held the diesel power plant and the ammunition chambers. Ammunition was transported to the gun deck by a paternoster type hoist, protected by 72 ton steel copulas with massive doors. Hitler Youth boys working in the ammunition chambers fed the hoist with grenades for the guns above.

The ground floor also served as

civilian air raid shelters along with the first and second floor. Together they could accommodate up to 15.000 people, but as many as 40.000 are reported to have sought shelter here during the final Battle for Berlin. The hospital and the maternity ward were situated on the third floor, which also provided space for offices, workshops and production of war material. It was also the storage area for museum artifacts, valuable paintings and sculptures. Fourth and fifth floor, just below the gun deck, were the quarters for Luftwaffe troops. This area was off limits even for other service branches without a special passport.

Initially it was planned to have the fire control bunker integrated in the gun bunker, but the idea was abandoned due to the heavy smoke from the guns, that would obscure the view for the rangefinder, and the tremor from the heavy artillery that might jeopardize the sensitive radar equipment. However, the G-tower did have an auxiliary fire control station in case the L-tower was knocked out or the connection interrupted, comprising a four meter rangefinder and a Command Device 40 for target calculations.

Looking at 1945 photos, it may strike one as odd that the towers

were furnished with windows – not a regular feature in most bunkers. The explanation is as simple as it is audacious; Hitler never calculated that he might actually lose the war, enemy troops would never set foot on German soil and thus, the towers would never be threatened from the ground. Consequently, he could afford to plan ahead to their post-war application; as museums and memorials to honor Germany's dead. Making the window holes while pouring the concrete, would greatly facilitate this conversion to peacetime purposes.

Armament

The towers main armament was the formidable double-barreled, 128 mm Flakzwilling 40 with one twin gun in each corner. These powerful gun combinations were so costly and difficult to produce that there were never many of them; even by February 1945 there were only 33 in service. Each gun tower had a crew of approx. 160 troops and six officers, with 21 men and one Sergeant manning each of the four big guns. This number may seem to reflect some redundancy as half that many would have been sufficient to load and operate the piece, but carrying shells weighing close to 50 kg from the ammunition elevators to the gun at a rate of up to 20 per minute took its toll on the men and casualties from fragments or enemy fire also had to be expected.

Secondary armament, installed on a terrace below the main guns, consisted of several 37 mm and 20 mm cannons that could cope with low altitude aircrafts.

L-tower

The other, more modest **Leitturm** or control tower, measuring 50 by 23 meters, was the command bunker from where the enemy planes were detected and guns were aimed. Under normal circumstances, actual gun laying took place from this tower whereas the crews manning the guns at the G-tower were mere feeders and troubleshooters in case of a jammed shell or similar.

Some 40 meters in height the L-tower housed a Würzburg Riese (Giant Würzburg) radar dish that could spot enemy planes

up to 50 miles away and sink to safety 12 meters into the tower before bombs started falling. Thus, this device did not assist in actual gun laying but served primarily as an early warning measure, providing direction of the attack wave and an estimate of the altitude. The radar was at a later stage fitted with equipment to counter the Allied use of "windows", metal foil strips released from lead aircrafts to jam German radar.

The L-towers or control bunkers housed about one hundred rank-and-file and six officers and were protected by 20 mm and 37 mm cannons on a balcony encircling the tower.

Gun laying

The Flak gunners of WW2 were not expected to score a direct hit on a plane 10.000 meters up in the air, a virtually impossible task even today. Instead Flak ammunition explodes, either after a preset time or when a sensor detects the proximity of a target. Fragments will then scatter over some distance and, hopefully, hit the plane. The three towers in Berlin could be controlled from one bunker, thus being able to align the guns so that a "Flak window", saturating 250 by 250 meter with shrapnels, could be created.

To assist this control, the crew of the L-tower could rely on radar for early detection and an estimate of the altitude of enemy planes. However, as radar technology was still in its infancy at the time and too inaccurate for precision gun laying, visual range finding by means of optical 10-meter range finders took over when the enemy was within range and spotted the planes above.

For actual targeting, a device known as Kommando-Gerät 40, a director used principally for large caliber AA guns such as i.e. the 128 mm twins, was used. The director was basically an analogue computer working in tandem with a stereoscopic range finder. It was operated by a crew of five. Two operators were required to track

TABLE 1	Flak 40 Zwillig, 2 x 128 mm	Flak 43 Zwillig, 2 x 37 mm	Flak Vierling, 4 x 20 mm
Designed	1936	1942	1940
Manufacturer	Rheinmetal-Borsig	Rheinmetal-Borsig	Mauser
Produced	1942	1943-45	1940
Numbers built	450	Approx. 1000	
Role	AA/AT	AA/AT/AP	AA/AT/AP
Weight	27.000 kg	2.780 kg	1.509 kg (3.327 lbs)
Crew	20 (10)		8
Barrel length	7.835/6.478 mm	3.300 mm	1.300 mm (4.26 ft)
No of riflings	40		
Shell weight	14.7/15.3 kg	0.64 kg	0.3 kg
Handling weight	47.7 kg	15 kg (8 in mag.)	
Caliber	128 mm (5.04 in)	37 mm (1.5 in)	20 mm (.78 in)
Elevation	- 3° to + 88°	-7,5° bis +90°	- 10° to +100°
Traverse	360°	360°	360°
Rate of fire	up to 20 rpm	300 rpm (practical)	800 rpm (practical)
Muzzle velocity	880 m/s	840 m/s	900 m/s (2.953 ft/s)
Effective range	14.400 m	4.800 m	2,200 m (2.406 yds)
Feed system	Electric rammer	8 round magazines	20 round magazines

In the background:

The Heiligengeistfeld Flak G-tower in Hamburg survived the war unscratched in spite of several air raids on the city.

Today the tower is home to offices and institutes, i.e. a music school.

It is possible to visit certain parts of the tower, but not the roof where the guns were installed.

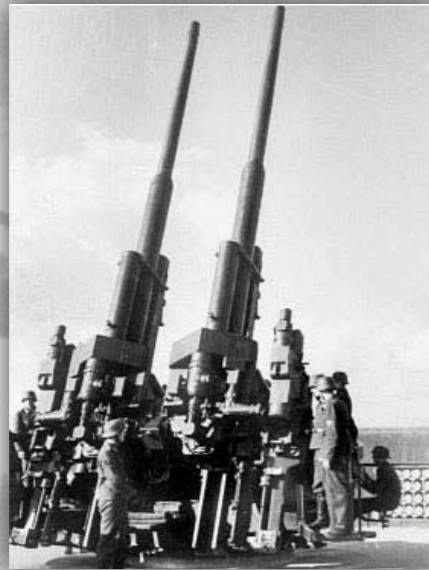
azimuth and elevation and a third marked slant range by means of a 4-meter base stereo range finder mounted on the director. The fourth man would set in horizontal angle of approach and the fifth man operated various switches. Data were transmitted to the guns for reception by a signal-light system.

The Kommando-Gerät 40 could handle diving and curving targets and was able to pick up a target within a time frame of 20 to 30 seconds. It was able to shift to a new target close to the target previously computed and, provided it was flying at a reasonably parallel course, new target data could be computed in as little as 10 seconds. Even evasive maneuvers with abrupt changes in the targets course, speed or altitude were overcome within 10 to 15 seconds.

Data could also be conveyed orally to the gun crews who adjusted the mighty 128 mm guns, capable of destroying enemy aircrafts up to fourteen kilometers up in the air.

Gun data

The first 128 mm FLAK 40 twin guns were delivered by Hanomag in 1942. Although they were portable with Special Trailer 203, the enormous weight of 27 ton made this primarily a stationary



weapon, especially used on the Flak Towers. Capable of throwing a 26 kg shell almost 21 kilometers and with a maximum altitude of nearly 15 kilometers with a cadence of 20 rounds per minute, this was a formidable and respected adversary for the Allied airmen.

To protect against low altitude attacks from enemy fighters, both the G-tower and the L-tower were furnished with several 37 mm and 20 mm cannons, some of them as twin or quadruple systems. The guns were placed on a sort of balcony surrounding the towers, and combined, on single G-tower

could muster some 8000 rounds per minute. Gun details are listed in Table 1.

Role, track record and surrender

The Luftwaffe staff at the L-towers coordinated the combined air defenses over Berlin including observation posts, radar stations, searchlights fighter planes, and the guns at the G-towers. One command post could i.e. control the guns at all three towers and with radar and rangefinder guidance create a grid or "window" of shrapnel 250 by 250 meters wide.

It is unclear just how many victories the Flak towers can claim as the general picture most often is blurred during battle and claims tend to be either too overconfident or too conservative. I.e. many enemy planes may have been hit by flak but managed to limp out of the Berlin airspace before finally crashing on the way home. The Humboldthain tower is accredited 32 confirmed kills, not an impressive figure considering that a single wave of enemy aircraft could number 1000 or more, but it reflects the difficulties in gun laying against an enemy flying at 10.000 meter altitude. In fact, the expenditure of ammo in Flak defense was huge, with a very modest yield; "At the end

of 1941, Generalleutnant Otto Wilhelm von Renz, Commander 1. Flakdivision reported to the HWA that the amount of ammunition expended per enemy aircraft destroyed was disproportionately high and would deteriorate further as the enemy built faster machines. For each victory, German flak needed: 16.000 8.8 cm (Flak 36) rounds, or 6000 10.5 cm (Flak 39) rounds, or 3000 12.8 cm (Flak 40) rounds". Although the guns of the three towers benefitted from state-of-the-art targeting devices and thus may have used less than average ammunition, the figures illustrate the inherent difficulties in gun-based air defense, each victory being a Pyrrhic one.

In that perspective, the most important impact that the towers in Berlin had on Allied sorties over the city will have been a degree of area denial; that the Government quarter within the triangle formed by the three towers may have been spared some bombing out of reluctance by airmen to getting too close. The roles as shelter for the civilian population has also been of significance, and let us not forget the preservation of cultural artifacts that we thus can enjoy today.

The Humboldthain G-tower was hit by Allied bombs on at least



three occasions, but no damage was recorded, not even cracks in the concrete. It is likely, however, that had the tower been hit by a massive 6 ton Tallboy bomb, it would have succumbed. Bombs like these and their even bigger counterparts, the Grand Slam, weighing in excess of ten tons are reported to have penetrated a seven meter thick concrete ceiling in the U-boat pens of Saint Nazaire in France.

1.000.000 men

By late 1944, as the Allied bombing raids over Germany steadily intensified, the German High Command had to allocate an

increasing amount of personnel to air defense. Ultimately, more than one million men - in many cases Hitler Youth troops - manned some 39.000 AA batteries. To top it off, another million or so were employed to clean up after bombing raids; a significant manpower drain at a time, where German armed forces were stretched to the limits.

Battle for Berlin

In the final battle for Berlin, the 128 mm guns of the Flak Towers took the enemy under fire, and the Russian forces respectfully kept their distance. Rittmeister Gerhardt Boldt of the Hitler entourage and resident of the Führerbunker recounts in his memoirs; "The backbone of the defense in the inner area of the city now consisted only of the Flak Towers in the Humboldthain, Friedrichshain and Zoo parks and the anti-aircraft guns on the Shell building. In the areas within range of these fortifications the Russian could make no significant progress". Antony Bevor describes the situation this way, as he relates General Weidling's predicament after he has been appointed leader of the city's defenses; "The only real strongpoints were the three concrete flak towers - the Zoo bunker, the Humboldthain and Friedrichshain. They had plenty



A stunning view over the rooftops of Vienna. The two Flak towers are clearly visible; Leiterturm ti the left and Gefechtsturm to the right

of ammunition for their 128 mm and 20 mm guns as well as good communications with underground telephone cables. Their greatest problem was to be overfilled with wounded and civilians in their thousands”.

In the last run for the Reichstag, the Russians bring up a large number of tanks and self-propelled guns along with massive forces, but are forced to retreat, as they come under fire from the nearby Zoo bunker. Antony Bevor; in Berlin, the downfall 1945; *“The German anti-aircraft guns on top of the Zoo bunker, two kilometers away, had opened up on them. They were forced to take cover again and wait until nightfall”*. And later on the same page; *“The 8th Guards Army in the southern part of the Tiergarten and the 3rd Shock Army in the north were held back only by fire from the huge Zoo flak tower”*. And a few pages forward; *“The 3rd Shock Army had bypassed the immensely powerful Humboldthain flak bunker which was left as a target for their heavy artillery and the bombers. Continuing in a clockwise direction, the 5th Shock Army, driving into the eastern districts, similarly bypassed the Friedrichshain bunker”*.

Counter-attacks were also mounted from the Humboldthain tower by troops from the defenses

spearheaded by their commander, Col. Schäfer. The Soviets tried unsuccessfully to fire at the concrete with heavy artillery and T34 tanks, but made little impact on the structure.

The Flak towers thus seemed impregnable to the Soviets and any ideas of a head-on assault were rapidly abandoned. However, given the situation surrender was only a matter of time. The Zoo bunker capitulated on May 1st after guarantees were given, that SS and SA men in the bunker would not be executed. Following Gen. Weidling’s surrender of the Citadel the previous day, Humboldthain gave up on May 3rd, 1945, at 12:00 and the remaining crew and Hitler Youth “Flakhilfer” boys were taken prisoner by the Red Army.

Break-out from Hitler’s bunker
During the night of May 1st, a breakout was attempted by Hitler’s entourage and the remaining personnel of the RSD and FBK. In some twenty groups, they tried to escape the Reich Chancellery and flee northwards over the Spree river. In the course of this attempt, a group passed the Humboldthain Park. At the same time, in the wee hours of May 2nd, a sizeable force of some twenty Tiger tanks, self-propelled guns and other armored vehicles – fresh out of Berlin factories



The Zoo Bunker after the war

and the last resources within the city limit – assembled at the foot of the Humboldthain flak tower, determined to make a go for freedom by breaking through the Russian lines and link up with the illusive forces of Wenck and Busse. The force was under command of the flamboyant and highly decorated twenty-seven year old Erich Bärenfänger – until April 23rd a modest Lieutenant Colonel, but in a whim promoted to Major-General by Hitler and put in charge of Berlin defenses, a position he held for some twelve hours before the assignment was given to General Weidling.

The Reich Chancellery group, led by Mohnke, arrived at Humboldthain early in the morning and the sight of Bärenfänger’s force was almost incomprehensible to the escapees. General Mohnke, quoted by O’Donnell, related; *“It was a fantastic apparition, like a Fata Morgana. I had to rub my eyes. This otherwise unreal scene reminded me of prewar maneuvers in my days as a young troop officer, somewhere off on the Lueneburger or the Romintern Heath. The sunshine, the shining weapons, the distribution of field rations. No sign of serious battle fatigue. We who had been trudging all through the Berlin night were astounded. A crazy new hope rose briefly.”*

However, the initial joy did not last long as Weidling’s order to lay down arms was in effect by 10:00 that same morning. Subsequently, the tanks and guns were destroyed and later that same afternoon, Bärenfänger and

his young wife committed suicide in a Berlin street.

Demolition and burial

Regardless of the intended post-war use of the towers and the fact, that several institutions and private companies had already settled in some towers whereas others were in use as shelters for homeless people, the occupation forces considered Flak towers military installations, bound for demolition in accordance with the surrender terms, and a program for their destruction was laid down in Directive 22 of December 6th, 1945.

After the post-war dividing of Berlin, the Flak tower lay in different control zones; the Zoo towers were in the British zone, the Friedrichshain towers in the Russian zone and Humboldthain lay in the French zone. The Soviets were to go first and on April 20th, 1946 (coincidence?), The first big bang took place as the Friedrichshain L-tower was (partly) demolished. Unsatisfied with the result, the Soviets made another attempt later and in the meantime, the G-tower was demolished.

The Britons followed on July 28th, 1947, blowing up the Zoo L-tower and went on to the Grand Finale a month later by stuffing the G-tower with 25 tons of explosives.



The League of Traveling Armchair Generals are preparing to enter Humboldthain Flak Tower

The world press watched in awe as the fuse was lit at 16:00 hours on August 30th, but when the thunderous explosion was over and the dust had settled, the tower still stood! One American newsman is reported to have laconically commented; *“Made in Germany”* It took another 40 tons of explosives to knock the tower down in June, 1948.

Humboldthain, being in the French sector adjacent to the Soviets, presented a special problem. The G-tower was situated very close to the railroad, which ran through the Soviet sector, and in 1948 the air between the former allies was getting colder by the minute. Consequently, the French did not want to risk a confrontation with Stalin if some of the debris from the explosion should fall on

the railroad tracks, and a partial demolition and subsequent burial in a heap of rubble from bombed-out Berlin was therefore decided on.

The L-tower was demolished on December 13th, 1947. The event was successful apart from the fact the property belonging to German company AEG on the other side of Gustav-Meyer-Allé was also damaged. The G-tower was unsuccessfully attempted blown up on February 28th, 1948 and only two weeks later a final explosion managed to knock down the two southern corners of the fortress.

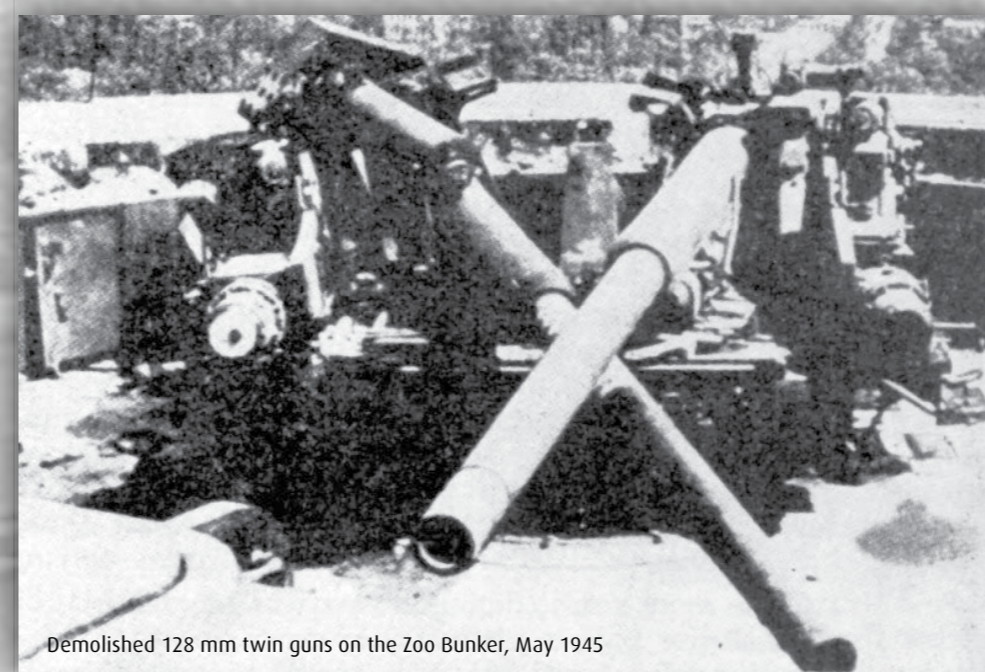
Flak towers today

Initially all three demolition sites were covered in the millions of tons of rubble that the center of Berlin had been reduced to during the allied bombing campaign and the final battle for the city. Humboldthain G-tower alone took 1.6 million tons of debris, and was only partially covered.

The Zoo towers are completely gone. Even the heaps of rubble were removed in 1958 as they presented a potential hazard to U-Bahn tunnel excavation. Friedrichshain was covered to a height of 78 meters and is known as Große Bunkerberg, but the most debris went into the so-called Teufelsberg (Devil’s Mountain) in Charlottenburg/Wilmersdorf, reaching a staggering 115 meters high and used by US troops as a look-out during the Cold War.



The balcony of the Humboldthain Tower today



Demolished 128 mm twin guns on the Zoo Bunker, May 1945



A drill on top of the Zoo Tower in 1942. Apparently a crew of just seven troops would suffice. Note that the gun at this point in time is a single-barrelled 88 mm, the 128 mm twins came later (August 1942). Also note the huge, 72 ton copula over the ammunition hoist.

▶ In 2004 the Berliner Unterwelten (Berlin Underground Association) started guided tours of the upper floors of the tower, and as they are remarkable structures, these Flak towers, and if you are into bunkers and fortifications of the Second World War, and the history of a metropolis under siege, a visit to Humboldthain is highly recommendable. ●

Factbox

Place: Humboldthain Flak Tower, managed by Berliner Unterwelten b.V. Office at Gesundbrunnen U-Bahn Station

Phone: +49 (30) 499 105-17

E-mail: Contact form on website

Web: <http://berliner-unterwelten.de/home.1.1.html>

Opening days: See website

Opening hours: See website

Admission: Seeing the tower from the outside is free. Guided tours, see website

Bahn lines: U8, S2, S8, S41, 42 (circle lines)

Required gear: Warm clothes, sturdy shoes or boots. Helmet is issued by guide, flashlight is advisable. Always use caution in derelict bunkers!

Photographing: Prohibited!

RATING: ♥♥♥♥♥

On Flak and guns

The term is an acronym of the German word **Fliegerabwehrkanone** or aircraft defense cannon and the concept is of German origin. In an English-speaking environment, Flak is known as AAA or triple-A, an acronym for **anti-aircraft artillery**, or ack-ack (from the World War I phonetic alphabet for AA). The earliest known use of weapons specifically made for the anti-aircraft role occurred during the Franco-Prussian War of 1870. After the disaster at Sedan, Paris was besieged and French troops outside the city started an attempt at re-supply via balloon. Krupp mounted a modified 1-pounder gun (~32 mm) on top of a horse-drawn carriage for the purpose of shooting down these balloons, named the "ballonkanone". ●



As airplanes matured during the interwar years, from flimsy fabric and plywood kites to awesome machines of destruction, the need for an efficient anti-aircraft defense spurred an array of longer and longer ranging artillery pieces, and ordnance especially suited to inflict damage on fast moving, airborne targets. This included fragmentation ammunition, sending shrapnel in all directions when detonated and a variety of fuses; time delay, barometric and proximity, to trigger the shell in the desired altitude.

Nazi Germany never developed a successful proximity fuse, so initially they relied on a regular, time-delayed explosive shell for anti-aircraft purposes. In 1943, however, a fragmentation shell with a controlled burst came into service, increasing the success ratio, and within the last six months of the war incendiary shrapnels were developed. They were thin-walled projectiles containing a large amount of small pellets designed to penetrate the skin of an aircraft and start fires within. ●