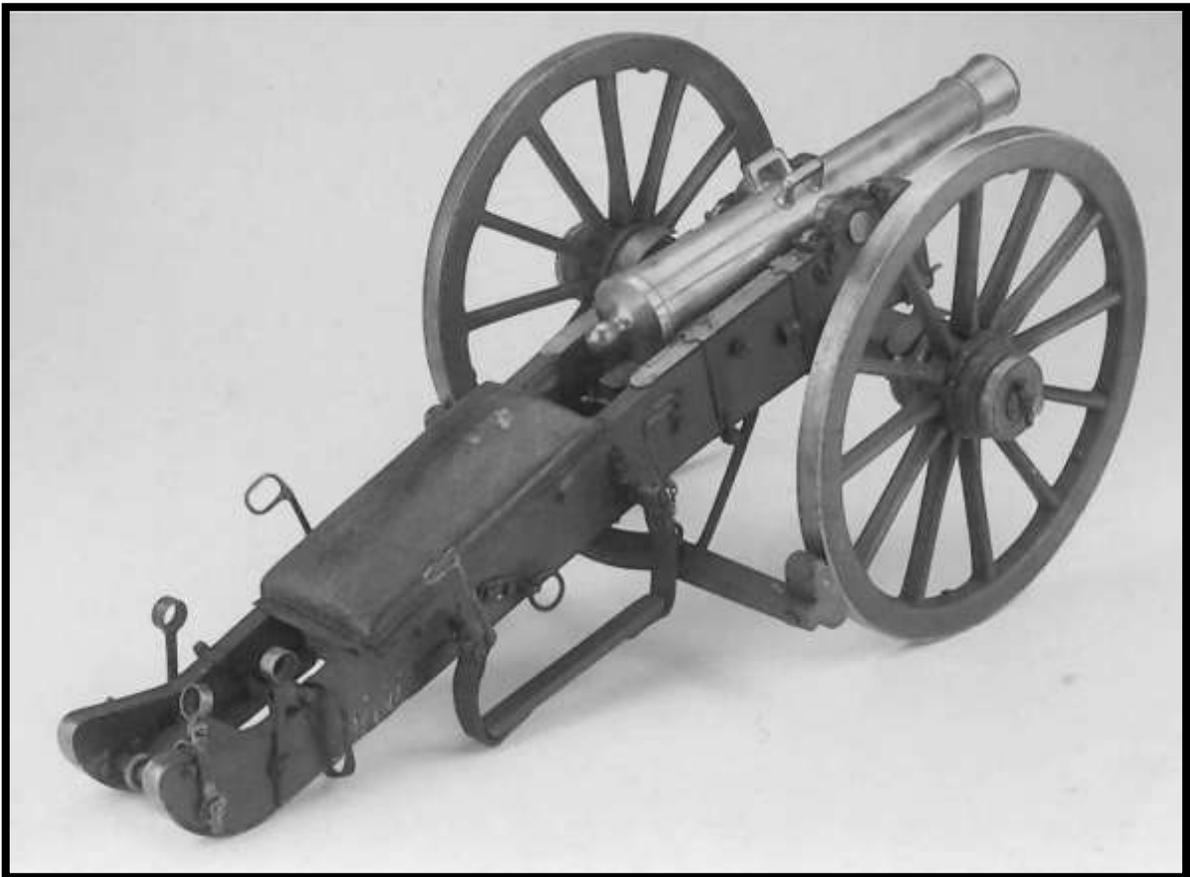




## Section 4: Confederation of the Rhine Ordnance





## Issue 2(07)

# Weissenbach's History of the Royal Württemberg Artillery – Organisation and Equipment 1734-1815

Translated by Digby Smith.

### **Translator's Preface**

This is a partial translation of the Second and Third Periods of the book, covering from 1734 to 1815 (pages 91–282). It concentrates on the organizational aspects of the artillery and on the actual equipment.

### **Source**

Weissenbach, Strack von (1882) *Geschichte der Königlich Württembergischen Artillerie* Verlag W. Kohlhammer, Stuttgart,

### **Reference as:**

Smith, Digby [translator] (Aug 2010) "Weissenbach's History of the Royal Württemberg Artillery – Organisation and Equipment 1734-1815," *Smoothbore Ordnance Journal*, 2 (07), 1-19

### **Weights and Measures**

Notes by Dr Stephen Summerfield

#### **Weights**

It is unclear from the text whether the definition for centner was the metric version used in Germany from 1858 or the previous Prussian measure where 1 centner was 51.45kg. For ease the 1 Centner = 50kg has been used.

- 1 pfund (pound) = 16 unze = 32 loth = 128 quentchen
- 1 schiffpfund = 3 centner (hundredweight) = 15 stein (stone) = 330 pfund
- 1 centner = 110 pfund

#### **Lengths**

- 1 Rhineland Rood = 12 Rhineland Fuss [31.39cm] = 376.68cm
- 1 pace =  $\frac{2}{10}$ <sup>th</sup> of a Rhineland Rood = 75.34 cm [5]

---

<sup>5</sup> Abye, R.W. and Eliot, W.G. (1813 rp 2010) *Bombardier and Pocket Gunner*, 7<sup>th</sup> Edition, Ken Trotman Publishing, p242.



## **Part 1: Württemberg Artillery 1734-1799**

The Württemberg Artillery from 1734 onwards; under

|                        |               |
|------------------------|---------------|
| Herzog Karl Alexander  | (r. 1733–37), |
| Herzog Karl Eugen,     | (r. 1737-93), |
| Herzog Ludwig Eugen    | (r. 1793-95), |
| Herzog Friedrich Eugen | (r. 1795-97)  |
| Herzog Friedrich       | (r. 1797-99)  |

This is an important period in the history of the artillery, as it covers the time in which the artillery became a true battlefield arm of service. It was a time when efforts were being made to lighten field cannon, to increase their numbers and to increase the usage of howitzers.

The Württemberg artillery was raised as a standing regiment in 1734; it was stationed in the Hohentwiel Fortress, whose inspector, *Alexander Weiss*, instructed young recruits in the serving and moving of the guns then and in 1735. On 26 March 1736, *General von Rennichen* raised a company of artillery from the best students. From now on, the artillery in Württemberg was no longer a guild, it had become an corps of the army in the shape of a company of foot artillery. The establishment of 1736 was

1 *Capitain*, 2 Lieutenants (who were also *Stückjunker* and *Oberfeuerwerker*), 12 *Bombardiere*, 40 *Kanoniere*, 15 *Mineurs*, 2 *Tambours* and 78 *Handlanger*.

The commanders then were *Hauptmann von Leger* in 1736, who was also an accomplished architect; he was followed by *Lieutenant Wetschky*; in 1741 Leger took over again, this time as a major. The uniform was a red coat, with black cuffs and collar, short white breeches, long gaiters and a hat. In the following period, the personnel of the artillery varied according to circumstances. At times, the artillery also included a special group for employment in the arsenal.

### **1758**

In 1758, *Herzog Karl Eugen* (r. 1737–93) raised the artillery to battalion strength it had 5 companies and included

#### **A staff:**

1 *Oberst*, 1 *Oberstwachmeister*, 1 *Commissar*, 1 *Adjutant*, 1 *Feldscherer*, 1 *Junker*, 6 *Hautboisten*, 1 *Profos*;

#### **5 companies:**

3 *Hauptleute* [captains], 2 *Stabshauptleute* [junior captains], 5 *Premierlieutenants*, 5 *Sekondelieutenants*, 5 *Feldscherer* [surgeons], 10 *Tambours* [drummers], 42 *Bombardiers* [bombardiers – technical personnel], 84 *Kanoniere* [gunners], 84 *Ouvriers* [artificers]. Apart from these specialists, infantrymen were drafted in as required, to act as assistants.

The uniform coat [for the artillery] became dark blue. The *Ingenieur* [Engineer] officers and the *Guides* [cartographers] were considered part of the artillery at this point.

### 1767

Major Leger was now *Oberst*; in 1767 *Oberstlieutenant von Schell* took over command of the artillery. In this same year, the ducal artillery corps consisted of

1 *Oberstwachmeister*, 1 *Zengwartlieutenant* (quartermaster), 1 *Adjutantlieutenant*, 1 *Premierlieutenant*, 3 *Sekondelieutenants*, 4 *Bombardiere*, 1 Sergeant, 1 Fourier, 1 *Feldscherer*, 2 *Corporale*, 12 *Kanoniere*, 4 *Mineurs*, 1 *Tambour*, 8 *Ouvriers*.

### 1774

On 1 October 1774, the artillery battalion became a regiment, consisting of a staff, 1 Grenadier or escort company and 4 artillery companies.

#### **Staff:**

1 *Chef*, 1 commandant, 1 field officer, 1 Adjutant, 1 *Regimentsquartiermeister*, 1 *Feldscherer*, 1 *Regimentstambour*, 4 *Conducteurs*, 5 *Guides*.

#### **Each company:**

1 *Hauptmann*, 3 Lieutenants, 1 Sergeant, 1 *Sekondesergeant*, 1 Fourier, 8 *Corporale*, 1 *Feldscherer*, 3 *Tamboure*, 2 *Pfeifer* (fifers), 102 artillerists and – when in the field – assistants from the infantry.

The uniform coat was now light blue.

### Swabian Artillery (from 1760)

There was also the artillery of the *Schwäbischen Kreis* <sup>[6]</sup>; since 1760, this unit was also recruited by the Württemberg artillery commander. The towns of Esslingen and Rottweil, which had arsenals, were garrison towns. The artillery commandant nominated the NCOs at this time. The peace establishment of a company was 50 men. The whole Swabian artillery corps was divided into so-called divisions and brigades.

### 1775

From 1 December 1775, the ducal artillery regiment consisted of: *Oberst von Nicolai* (who was also on the ducal general staff),

the staff of 1 *Oberst* and *Chef*, 1 *Oberstlieutenant*, 1 *Oberstwachmeister*, 1 Adjutant, 1 *Regimentsquartiermeister*, 1 *Regimentsfeldscherer*, 4 *Conducteurs* (NCOs), 8 *Guides*, 4 (from 1776 only 3) *Fouriers*, 2 *Feldscherer*, 1 *Regimentstambour*, 1 *Profoss* (provost), 4 *Pfeifer*.

The companies had: 8 *Hauptleute*, 8 *Lieutenant*, 8 *Bombardier*, 16 *Corporal*, 32 *Kanonier* and *Mineurs* (miners, of these 16 were permanently employed), 8 *Tambour*, 320 grenadiers (from 1776 240), *Ouvriers* (of which 160 were permanently employed).

### 1777

On 1 May 1777 the establishment of the corps of artillery was revised.

#### **The staff:**

*Regimentsinhaber Oberst von Nicolai*, commandant *Oberstlieutenant von Schell*, *Oberstwachmeister von Bilfinger*, *Regimentsquartiermeister Hauptmann von Zech*, *Adjutant Lieutenant von Krone*, *Regimentsfeldscherer Krone*, 4 *Conducteurs*, 5 *Guiden*, 1 *Regimentstambour*, 1 *Profoss*, 2 *Feldscherer*.

#### **Five companies (including a grenadier company)**

*Oberstlieutenant von Zobell*, *Hauptmann von Becke*, *Stabskapitän Walter*, *Rischer*, *von Mylius*, 10 Lieutenants, 5 Sergeants, 5 *Sekondesergeants*, 5 *Fouriere*, 15 *Corporale*, 10 *Tambours*, 5 *Pfeifer*, 25 *Oberkanoniere*, 25 *Unterkanoniere*, 200 gunners.

### 1784 Horse Artillery

---

<sup>6</sup> [Of the Swabian contingent for the Holy Roman Empire.]

In the meantime a new weapon had entered the artillery – horse artillery. There had previously been attempts to give artillery the mobility with which to keep up with the movements of cavalry, mainly by doubling the gun teams. *Frederick the Great* felt a particular need for such mobile field artillery and mounted its crews on horses; he thus became the father of horse artillery. In Württemberg, horse artillery was first mentioned in 1784-85. It initially consisted of 12 men, 8 of whom were in Hohenheim and 4 in Stuttgart. 24 horses were added later.

This unit at once became part of the Guard Legion, consisting of infantry, cavalry and artillery. Members were all tall, good-looking young men. This artillery became the artillery of the guard, but remained initially part of the artillery regiment at Hohenheim, later at Asberg. The uniform was light grey with green cuffs. The officers of this unit were *Oberstwachmeister von Becke* and *Stabs-Hauptmann Schaidlin*.

### 1789 – Horse Artillery

From 1788 to 1789 the establishment of the horse artillery, which enjoyed a high reputation, *Oberstwachmeister von Becke, Stabshauptmann Schaidlin, 4 Lieutenante: Seeger, Roth, von Becke snr and von Becke jnr, 3 Sergeanten, 1 Quartiermeister, 9 Corporal, 80 gunners (including drivers), but only 18 horses.*

### 1784

The establishment of the `Ducal Nicolai` Artillery Regiment was

#### Staff:

1 *Chef*, 1 commandant (both of whom were *Chefs* of companies), 2 *Oberstlieutenante*, 1 Adjutant, otherwise as for 1777.

#### Four companies:

4 *Stabshauptleute*, 6 *Lieutenante*, 4 *Sergeante*, 4 *Sekond-Sergeante*, 4 *Fouriere*, 2 *Fledschere*, 15 *Tambours* and *Pfeifer*, 25 *Oberkanoniere*, 25 *Unterkanoniere*, 132 gunners. Of these, 2 *Oberkanoniere*, 4 *Unterkanoniere* and 76 gunners were always on long leave [in time of peace].

### 1789

In 1789 the artillery establishment was much increased. On 7 July, *Oberstwachmeister von Becke* marched from Asberg to Ludwigsburg with the horse artillery company, where they were quartered in the `lower barracks`. On the 18<sup>th</sup>, however, they had to move to Hohenheim with four 3-pdrs, as part of the *Garde-Legion*. The uniform of the horse artillery was now a green coat with red facings.

### 1790

In 1790 they consisted of

1 *Oberstwachmeister*, von Becke, 1 *Hauptmann*, 4 Lieutenants, 2 *Sergeanten*, 1 *Quartiermeister*, 10 *Corporalen*, 64 gunners, four 6-horse teams, with two extra horses.

It was divided into two so-called “brigades.” The four 6-pdrs each had a four-horse team, the four 3-pdrs each had a 2-horse team. The 6-pdr teams each had two drivers, the 3-pdrs had 1 driver. From now on, the horse teams went in pairs [instead of in single file] and the drivers of the horse artillery were members of the artillery, who had been trained to drive, for the first time. They were equipped with the whip and the sabre. Two gunners rode on the ammunition box of the 6-pdr, one sat on the ammunition box of the 3-pdr. Behind the 6-pdr rode an NCO and 8 gunners; behind the 3-pdr rode an NCO and five gunners. On 31 December 1790 the Nicolai artillery regiment was disbanded and the men, who were not taken in by the arsenals or

by the horse artillery, were transferred to the infantry. From 1790 onwards, the ducal artillery consisted only of horse artillery.

### 1791

From 1 January 1791 there was only the Corps of Guides, who were mainly employed in survey work and the `Arsenal Guard`, consisting of

1 artificer, 1 clerk, 1 sergeant, 1 Feldscherer, 1 Corporal and 15 privates.

The entire organization was called the Ducal Corps of Artillery. Due to the march on Kehl in 1791, the horse artillery was disbanded and converted to foot artillery. From now on, Württemberg had no horse artillery.

### 1794 – Landmiliz Artillery

Because of the constant campaigning, there were only 15 artillery personnel in the Duchy. Duke Ludwig Eugen (1793–95) raised a company of artillery of 134 men, part of which was attached to the Landmiliz (Country Militia), which was raised in 1794, in response to the martial climate in the Duchy. The artillery of the *Landmiliz* consisted of

4 captains, 4 *Stabskapitäne*, 8 *Lieutenant*, 60 NCOs, 600 gunners, one 12-pdr and one 6-pdr. [sic] <sup>7</sup>

From 26 June 1794 a detachment of two gunners, with the associated crew, were stationed permanently in Stuttgart, where a 41-strong citizen's artillery company had been formed from the *Landmiliz* and from volunteers. On 5 April 1795 an artillery drill regulation was issued.

### 1795 - Swabian Artillery

We must now return to the *Swabian Kreis-Artillery*; in 1795 it consisted of fourteen 6-pdrs, ten 3-pdrs; the reserve artillery had four 12-pdrs and four 7-pound howitzers. In addition to this, there was the Württemberg artillery contribution to the *Swabian Kreistruppen* of seven 12-pdrs and five 6-pdrs. In 1796 this Kreis-Artillerie was increased by four howitzers without teams.

### 1797

To return to the ducal artillery under Herzog Friedrich Eugen (1795–1797), in 1797 Camerer, an officer from Russian service, was commissioned as *Oberstlieutenant* and given command of *Oberstlieutenant* von Becke's artillery, which he commanded under Herzog Friedrich from 1799 onwards. Herzog Friedrich became a Kurfürst [Prince Elector of the Holy Roman Empire DGS] in 1803 and King from 1806 to 1816.

### 1799

From 1799 onwards, von Camerer also assumed the supervision and direction of the arsenal in Ludwigsburg. The then captain Vischer was at that point a Zeugwart (quartermaster) in the arsenal. From this point on, there was a permanent Directorate of the Arsenal in Württemberg. In 1798 the artillery establishment consisted of

1 *Oberstlieutenant*, 1 *Hauptmann*, 1 *Premierlieutenant*, 2 *Sekondelieutenants*, 1 *Commissar*, 4 *Sergeanten*, 1 *Zengdiener*, 1 *Quertiermeister*, 1 *Chirurg*, 12 *Corporale*, 2 *Tambours*, 80 *Artilleristen*.

As headgear a helmet was now introduced.

---

<sup>7</sup> DGS considers that the word `batteries` has been omitted



## **Part 2: Württemberg Ordnance 1763-99**

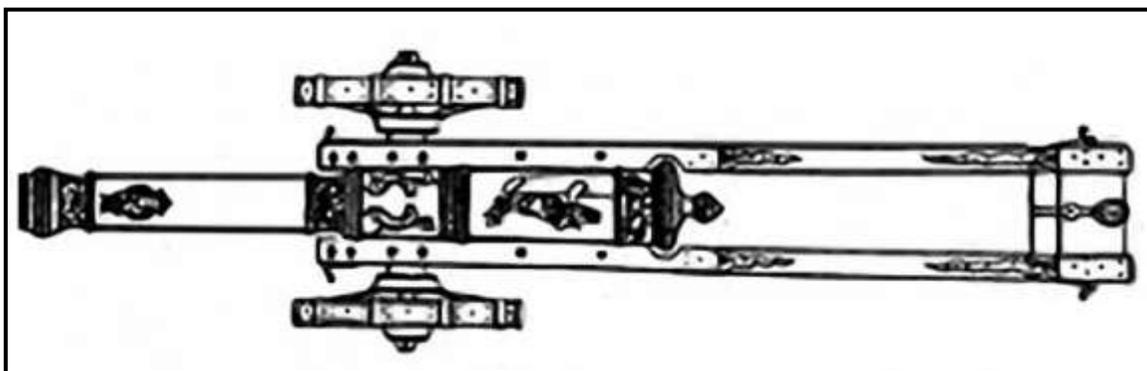
In 1763, Württemberg had 155 metal [bronze] guns, 73 iron pieces and 29 petard mortars. These were partly in the arsenals, partly in the hill fortresses. In 1792 there were the following guns:

In Ludwigsburg arsenal, in Hohenasberg, Hohenheim and Kehl:

Ten bronze mortars, twenty howitzers, two 24-pdrs, twelve 12-pdrs, sixteen 6-pdrs, 46x 3-pdrs, two 9-pdr *Halbschlangen*, two 8-pdr bronze wall pieces, fourteen ½-pdr *Falkonets* and six ½-pdr *Jägerstücke*.

In Hohentwiel:

3 large and 1 small [Perrier] mortars (that threw stone projectiles of 100 pounds and 5 pounds), two 9-pdr howitzers, two 6-pdr cannon (*Hagel* or *Steinkanonen*), one 2-pdr gun, fifteen 1–½-pound *Falkonets*, one ¾-pound *Falkonet*, three ½-pdr *Serpentine* and two 1-pdr iron cannon.



Mid 18<sup>th</sup> Century Württemberg Heavy 12-pdr of 21 calibres and 43 Centner [2150kg]  
[NGA Archive]

### ***Weights of Guns***

- A 24-pdr weighed 64 Centner [3200kg]
- A heavy 12-pdr weighed 43 Centner [2150kg]
- A light 12-pdr weighed 33 Centner [1650kg]
- A heavy 6-pdr weighed 13 Centner [650kg]
- A light 6-pdr weighed 9 Centner. [450kg]

### ***Dimensions of Guns***

- The 24- 12- and 6-pdr barrels were 21 calibres long,
- The 3-pdr was 17 calibres long.
- The thickness of the metal at the touch-hole was 8/10 – 9/10 [calibres], at the muzzle it was 2/5 – 4/5 [calibres].

See Hoyer's *Artillerie Wörterbuch* [<sup>8</sup>] [*Artillery Dictionary*] and Decker's *Versuch einer Geschichte des Geschützwesens* [<sup>9</sup>] [*An Attempt at the History of Guns*].

### ***Mortars and Howitzers***

In 1793 there were also the following mortars in Ludwigsburg, some iron, some metal [bronze]: 60-pdrs, 42-pdrs, 33-pdrs, 32-pdrs, 30-pdrs, 12-pdrs, 11-, 7-, 6- and 4-pdrs. They weighed from 1983 to 190 pounds. The howitzers weighed from 1050 to 681 pounds.

### ***Gun Founding***

At this time, the bell founder Neubert, was the official cannon caster for the Swabian Kreis; he cast the Ducal artillery barrels in his private foundry. Also at this time, a technical advance was made, in that the barrels were no longer cast over a central form and then drilled out, but the solid barrel was drilled out in a vertical jig. Neubert acquired a vertical drilling rig.

### ***Small Arms***

Small arms were imported as Württemberg had no such domestic facility. All military stores were stored in the arsenal in Ludwigsburg.

### ***Vehicles.***

In Herzog Karl's time, the artillery vehicles were of the older Austrian design and those procured in 1799 were made to the same specification. They were heavy, used a lot of wood, had wooden axles, heavy metal fittings, small wheels and, from 1788 onwards, a seat for the driver. Ammunition was transported in covered wagons and *Leiterwagen* [a light, simple four-wheeled farm vehicle]. At that time there was no artillery factory, thus artillery vehicles were made according to civilian wagon patterns or models. All new gun carriages were stored in Ludwigsburg, the other military vehicles were stored in Esslingen, the older gun carriages in Hohentwiel

### ***Ammunition.***

In 1796 the scale of ammunition for a  
12-pdr was 75 ball and 25 grape cartridges,  
6-pdr was 75 ball and 30 grape cartridges,  
3-pdr had 100 ball and 50 grape cartridges.

At this time, there were no scientific manuals for the production of ammunition; the senior Feuerwerkers, or officers with the necessary knowledge instructed the junior staff. The methods and formulae were as for the Austrians.

To organize the firework displays, Herzog Karl invited Italian specialists to Württemberg, where men from the artillery were sent to be instructed by these artists in their craft.

At this point, there was a lot of iron projectiles in the duchy, mainly in the Hohentwiel fortress. There were bombs, shells and solid shot, and there were 45,000 such projectiles in

---

<sup>8</sup> Hoyer, Johann Gottfried (1804), *Allgemeines Wörterbuch der Artillerie*, Volume I and II, Tübingen [*General Dictionary of Artillery*]; (1830), *Allgemeines Wörterbuch der Artillerie*, Volume III, Tübingen [Supplementary volume to the *General Dictionary of Artillery* published in 1804]

<sup>9</sup> Decker, Carl von (1819) *Versuch einer Geschichte des Geschützwesens in Europa von ihrem Ursprunge bis auf die gegenwärtigen Zeiten*, Berlin [An Attempt at the History of Guns in Europe from their origins to the present day].

Ludwigsburg as well as hand grenades and canister, which consisted of tin containers filled with iron balls; they were fitted with iron or wooden bases.

### **Powder.**

From 1736 to 1799 gunpowder for the ducal troops was manufactured by private contractors, who were issued with saltpeter by the state. There were no formal standards available for inspection and proof of the powder delivered. It was stored partly in the powder magazine near the Calwerthor in Stuttgart, partly in that near the Osterholz in Ludwigsburg, partly in Hohenasberg; in 1794 there were 130,000 of powder in the Hohentwiel fortress.

### **Sundry Equipment.**

From 1734 to 1799, all items of equipment needed for military troops and horses was made up by civilian craftsmen working to sealed patterns, which were issued to them. Harness for the military draft horses was – as was common in many other states – incomplete. The so-called German saddle was used, as was the snaffle bit and simple bridle.

### **Artillery Firing Practice (1741-99)**

The oldest recorded such firing in Württemberg, is to be found in Marten's *History of Hohentwiel*. [<sup>10</sup>] In 1741 several bombs were launched there, in the presence of Duke Karl Eugen, Ludwig Eugen and Friedrich Eugen. In this experiment, a bomb, weighing 183 pounds, filled with sand, was launched from a mortar at an angle of elevation of 70 degrees, using a charge of 3 pounds of powder. It fell to earth 1792 feet away. According to "*trigonometric parabolic calculations, it had reached a height of 1232 feet.*" It was thus deduced, that, as the walls of the fortress were only 400 feet higher than the base-plate of the mortar, the bomb, falling a further 832 feet, would have such force, that if several of them were to fall onto an exposed vaulted cellar roof, they would cause it to collapse. It was thus recommended, that, "*in case of a siege, all such exposed roofs in the Hohentwiel should be covered with a thickness of 7 feet of earth.*"

Not very much real target practice took place at this time. In 1776, for example, a bombardier and 9 gunners were allowed 3 balls each to be fired from a 1-pdr and 1½ -pdr cannon, with 30 pounds of powder and 5 pounds of powder each for use with shells from a howitzer.

Another, older practice shoot, from the time that Herzog Karl ascended the throne, concerns the use of howitzer shells.

It was only after the return from the 1792 campaign that regular shooting practice was adopted and the artillery trained with live ammunition for six weeks. The guns were usually mounted on platforms for this exercise. The targets were fixed and mobile. Great value was placed on rapid firing with the guns being unlimbered as quickly as possible.

At the end of this period, the maximum ranges of the guns [with solid shot] were as follows:  
3-pdr – 1200 paces [900m]; 6-pdr – 1400 paces [1050m]; 12-pdr – 1600 paces [1200m];  
with grape it was 300 [225m], 500 [375m] and 700 [525m] paces respectively.

With the mortar, it was no longer the practice to ram home the bomb, light the fuse and then fire the weapon; it all happened in one operation.

---

<sup>10</sup> Martens, Karl (1857) *Geschichte von Hohentwiel*, Stuttgart



### **Part 3: Artillery Regulations 1734-1799**

As with all other troops, the artillery duty was governed by the `Schwäbische Dienstreglement` (Swabian Regulations). This publication adjured the gunner to be `faithful to his gun, never to abandon it except in extreme danger and to defend it to the last drop of his blood`.

For the artillery there was a section on saluting with the cannon when a senior officer appeared, and on conduct during festivities, where the reserve artillery would fire a salute to open proceedings, followed by the regimental guns.

Artillery was to salute also at funerals, where they would be fired three times with `full charge`.

#### ***Tactics (1734-1799)***

In the period 1734 – 1799 it should be noted that the 24-pdr was used only to attack and to defend fortresses and that this was usually the case also with the heavy and the light 12-pdr. The latter piece was also used to attack and to defend field fortifications and other defensive positions. This was especially the case on the Rhine and at the Kniebis in 1796. The heavy and light 6-pdrs were also used for this work, as it was only at time of march-out in November 1799, that some 6-pdrs and some 3-pdrs were combined into a battery for use in the field [see page 23 of the original]. Thus it was the 3-pdr that was the real field gun of this period in Württemberg. In 1799 however, it seems that the need for a heavier gun on campaign than the 3-pdr was felt.

There was no drill manual covering the duties of the crew of a gun at this time in Württemberg. The actions of the gun crew were based on traditional practice and went on completely informally. Fire was mostly at a rapid pace and the barrel was not swabbed out in between discharges. To avoid accidents during this procedure, the rammer was made of two rigid parts, held together at a right angle with a leather strap.

In the horse artillery, when the command `Unlimber` was given, the mounted gunners gave the reins of their horses to the drivers of the teams. At the command `Fire`, the piece was automatically to be reloaded.

#### ***Battery***

At this time there were no regulations for the use of several guns collected into a battery. The number and calibre of guns to be in any command, taken on campaign, was decided only at time of march out; see page 23 [of the original]. Six, eight or ten guns might be concentrated into a battery and the calibres of these guns might be 3-or 6-pdrs.

Up to now, there had been some examples of evolutions being practiced by several guns in unison, but these followed the principles of the movements laid down in the infantry drill manuals, including firing. There was as yet no train of artillery, so the gunners of the 3-pdrs pulled their guns on straps [Riemen] in such drills. Only the horse artillery could use horses on

such drills; the horses came from the ducal stables, the coachmen acted as drivers. On very special occasions, horses for the artillery would be hired or rented; when going on campaign, civilian drivers would be recruited. It is clear, that the artillery of this period had considerable problems to overcome, in order to achieve what was required of them, using such untrained, undisciplined people. See (1797) *The extracts from letters on German state affairs*, pages 77 onwards. Oberst von Nicolai was especially concerned about such problems when he commanded the artillery in Württemberg and urged the formation of a military train of drivers. See *the instructions of von Nicolai* (1781), Stuttgart, pages 511 and 517. [<sup>11</sup>]

### **Grand Manoeuvres**

Artillery first took part in all-arms exercises, together with 23 battalions of infantry and 23 squadrons of cavalry and 100 guns, staged by Herzog Karl between Ludwigsburg and Osweil in 1762. The exercise extended as far as Poppenweiler, Benningen and Beihingen. In September 1798 we find the artillery participating in the grand manoeuvres at Zuffenhausen, with 12 battalion guns and a signal cannon. The latter weapon was used to signal the start of each movement, each phase of the combat. In all these exercises, infantrymen were attached to the artillery to serve the guns. Oberst von Nicolai laid great stress upon the `tactical element` of operating together with infantry and cavalry. See the instruction for the formation of an all-arms war school by Oberst von Nicolai (1781), Stuttgart, pages 327, 329, 426. [<sup>12</sup>]

The then teacher of tactics at the Karlsschule in Stuttgart, Lieutenant von Miller, said in respect to this: “a gunner who is not a tactician is no gunner.”

### **Regimental Guns**

The approved tactical doctrine of this time taught that the regimental guns always accompanied the infantry; the heavier, reserve pieces were to open the fire-fight and to cover the advance or withdrawal to another site. The guns would be set out as far apart as the terrain and the position of the troops would permit, without losing the ability to concentrate their fire if needed. The use of the regimental guns was explained in the:-

Schwäbischen Dienstvorschriften [*Swabian Service Regulations*] or *Reglement für die Truppen von den Fürsten und den Städten des schwäbischen Kreises*, confirmed by the *Schwäbischen Kreiskonvention* in 1795, pages 275-276).

As the enemy came into cannon range, the guns were to start firing at a slow rate. When the enemy had closed to 300 paces [225m], the guns were to fall back into the intervals [between the battalions] and the enemy were to be kept under continuous fire of grape, the guns ensuring that they did not hinder the musket fire of the infantry, which by now would have begun. The reserve artillery would meanwhile have opened up on the enemy's main body, the infantry not advancing too quickly, so that they obscured the target.

See von Nicolai (1781) *Anordnung für eine gemeinsamen Kriegsschule*, Stuttgart, pages 402 and 403, and also *Taktik*, Part I, p614 etc by the Württemberg Lieutenant of Hussars, Franz Miller, teacher in the Hohen Karlsschule in Stuttgart [<sup>13</sup>]

We see that in the period under review, that the use of the regimental or battalion guns and the reserve artillery have been based on scientific principals and are already exerting their influence

---

<sup>11</sup> Nicolai, Oberst von (1781) *Anordnung für eine gemeinsamen Kriegsschule*, Stuttgart,

<sup>12</sup> Nicolai, Oberst von (1781) *Anordnung für eine gemeinsamen Kriegsschule*, Stuttgart,

<sup>13</sup>: Miller, Franz Georg von (1787 and 1788) *Reine Taktik der Infanterie, Cavallerie und Artillerie*, Volume I and II, Stuttgart

on the course of the battle, even though their mobility was not what it should have been, due to the heavy weight of the gun carriages and the lack of skill of the drivers.

### ***Siege Artillery***

There were also comprehensive regulations for the use of siege artillery (see in the (1795) *Reglements etc*, Rastatt, pages 282 etc and 300 etc). `Their crews should be especially well practiced in the use of ricochet fire; their officers should know how to site and build their batteries so that the guns are protected from enemy enfilading fire`. In September 1759, Herzog Karl had a polygon built at Ludwigsburg, south of the Aldinger Chaussée, according to plans drawn up by Major von Gribelly, which was surrounded by a sort of covered way. Trenches were opened, fascines etc were built and a siege conducted to its conclusion.

### ***Swabian Artillery Regulations***

Lastly, this Swabian Regulation included a special section on artillery in a fortress or in a redoubt and for the storage and transportation of gun powder. (See the (1795) *Regulations*, pages 271 and 334).

### ***Artillery Training (1770-99)***

In October 1787, Herzog Karl Eugen, who had a weakness for the artillery and its training, had an artillery school build, under the direction of Oberstwachmeister von Becke, and allowed artillerymen to visit the “Collegia in his high Karlsschule”. (in 1770 Herzog Karl had built the Karlsakademie on the Solitude site; in 1774 he moved the Military Academy to Stuttgart, where, in 1781, the Emperor raised it to the status of a university.

Herzog Friedrich Eugen was also keen to reintroduce training for the corps of artillery, as under Herzog Karl, as being “necessary and useful.” The syllabus of the artillery school included four modules:

**Module 1:** Mathematics, freehand drawing, geometry and solid geometry.

**Module 2:** Mathematics, trigonometry, the drawing of guns and plans, cartography, the assessment of terrain, estimation of distances and ballistics.

**Module 3:** Mathematics, algebra, construction of field fortifications, modelling and artillery theory.

**Module 4:** Artillery tactics, military geography, military history and the history of artillery.

The gunners also had two periods of instruction per week, covering mathematics, German language, geometry, artillery, building of field fortifications and the estimation of distances. NCOs and gunners were also instructed in military pyrotechnics. Artillery officers also attended lectures on technical artillery topics.

Oberst von Nicolai recorded the history of the artillery in this period. His scheme for the construction of a school for an all-arms was school in 1781 was especially interesting. In the introduction to this work, he refers to the education of the soldier; he then expounded on his project and appended a set of service regulations for the school. He also wrote a paper on the defence of the River Rhine against French attack, but this was never published.



## **Part 4: Württemberg Artillery on Campaign 1757-1815**

### **1757-1760**

At the beginning of 1757 the [Holy Roman] Empire declared war and Herzog Karl ordered the mobilization of his army. In August 1757, 6,000 ducal troops left the camp at Kornwestheim and marched for Silesia. From 23 October to 13 November, they were in action before Schweidnitz; on 22 November, they.....

### **Pages 108 – 114 Missing**

At this time, the artillery had no horses in peacetime. For exercises hired horses were used.

After the horse artillery was organized, a small train was provided for them; sometimes the foot artillery were allowed to use it as well, as horses were usually only available after mobilization. The 6-pdr guns and their ammunition wagons had only 4-horse teams. From 1803 onwards, they had a train of 24 horses, so that they could practice gun drill and tactical movements in peacetime. Each groom of the train looked after two horses. From 1806 to 1807 we find that this train was doubled and the artillery were able to move eight guns at any time. In 1814 it was ordered that each of the three horse artillery companies was to have a peace establishment of 73 draught horses, but this was never fully implemented. For large-scale exercises, hired horses were used to fill out the teams. For field service, all guns and wagons had 6-horse teams.

### **Page 110**

#### **1792 – 1795.**

The Schwäbisches Kreis infantry was mobilized in 1792, as was the artillery on 18 August in Hohenheim. They set off with five heavy and two light 12-pdrs, one heavy and four light 6-pdrs, eight ammunition wagons, three tool wagons and an infantry ammunition wagon. They were used at the siege of Mainz, in Wurmser's thrust down the Moselle, against Landau, in the Vosges and at the Weissenburg lines.

#### **1800.**

A battery of six 3-pdrs was mobilized, as was a battery of six 6-pdr cannon and two 8-pdr howitzers, each with a four-horse team. There were also ten artillery ammunition wagons, six infantry ammunition wagons, one Jäger ammunition wagon, a field forge, a medical cart, each with a two-horse team (later increased to three horses each). There were also a four-horse Chevauxlegers staff wagon, two pack horses, three four-horse infantry staff carts, four pack horses for the Jägers, 15 packhorses for the infantry, a three-horse cart for the light infantry company, 17 four-horse tent wagons.

### **1801**

From August 1801 a HA battery of four 6-pdrs was raised; in 1803 this was increased to six 6-pdrs, then to four cannon and two 7-pdr howitzers. Three of the gunners were mounted, the others rode on the middle pair of the gun team.

### **1803**

Later in 1803, this was changed again; in each gun team three drivers and five crew were mounted, the rest rode on the gun. In 1805 this changed again; in each gun team, six of the crew were mounted, two rode on the gun carriage.

### **1806**

In 1806 the HA company had 90 gunners and 39 drivers; these included 1 Chirurg, 1 Quartiermeister, 2 trumpeters, 1 Wagenmeister. For each cannon, six gunners were mounted and two rode on the gun carriage. For each howitzer, four gunners were mounted, four rode on the gun carriage.

During this campaign, one of the batteries was reorganized as a mobile battery, in that two gunners rode on the gun carriage, two on the limber and one on the middle hand horse of the team; the latter functioning as a driver. The NCO gun commander was mounted.

### **1807**

In September 1807, the Württemberg artillery consisted of a foot and two HA batteries. Three months later, another foot battery had been formed; there were now two foot batteries of ten guns each and two HA batteries of six guns each. The establishment of the HA battery was:

1 Hauptmann, 2 Lieutenants, 1 Sergeant, 1 QM, 1 Chirurg, 6 Korporale, 1 Trompeter, 46 Kanoniere. A foot battery had the same complement of officers, but 10 Korporale, 1 Tambour and 120 Kanoniere.

### **1809**

In 1809 the two HA batteries had 6 guns each, the two foot batteries had 10 guns each. Each gun had its ammunition wagon and each battery its own tool and spares wagon. There was also a Reserve Park of 1 Lieutenant and 146 men, including 76 drivers, a forge and a charcoal wagon.

### **1810**

On 1 May 1810, the artillery establishment was revised and set at three HA companies and four foot batteries, with an Arsenal Company.

The 1<sup>st</sup> and 2<sup>nd</sup> HA companies had four 6-pdr cannon and two 7-pdr howitzers, six ammunition wagons and an artificers` wagon. The 3<sup>rd</sup> HA Battery had three 6-pdr cannon and a 7-pdr howitzer, four ammunition wagons and an artificers` wagon.

**Pages 140 – 143 are missing.**

### **Page 144.**

In 1814 it was ordered that each of the three HA batteries should maintain 73 draught horses in peacetime. For large exercises, other horses were hired.



### **Part 5: Ordnance (1799-1815)**

In the period 1799–1815, the guns used by the Württemberg artillery were generally of Austrian production, but there were also some Prussian and French pieces. The calibres included the light and heavy 12-pdr, the 8-, 6- and 3-pdr cannon and the 12-, 10-, 8-, and 7-pdr howitzer and the 8- and 32-pdr mortar. The 3-pdr cannon were only used for peacetime exercises, early in the period.

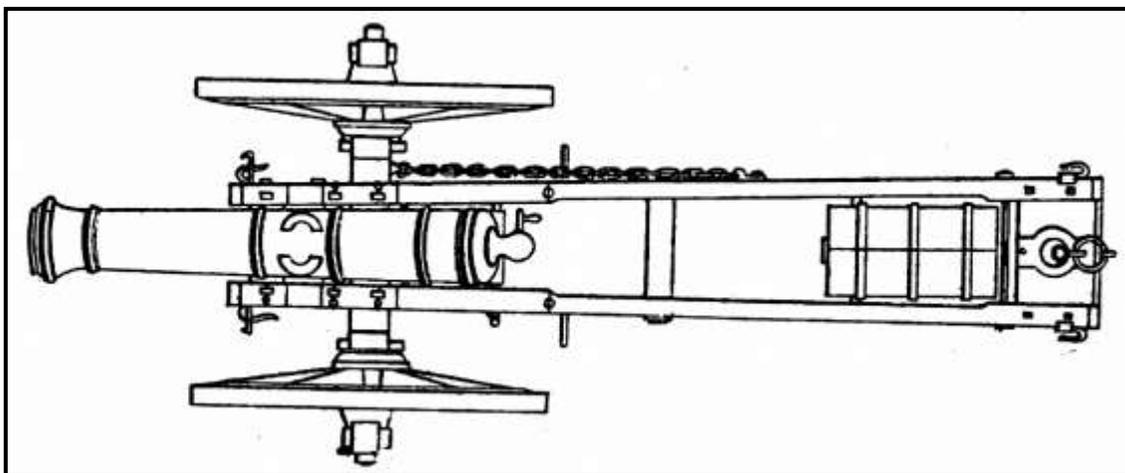
For the 1812 campaign the Württemberg used the 6- and 12-pdr cannon and the 7-pdr howitzer. Initially, the 12-pdrs were distributed among the batteries, later they were concentrated into their own battery. All the guns were kept until 15 November, at Krasnoi, when, due to lack of teams, they were all spiked and abandoned.

In 1814, some Württemberg Pioniere found 28 cannon barrels in a water-filled ditch at Troyes. These were 6- and 12-pdr cannon and 7-pdr and a heavier calibre of mortar.

In 1815, the HA and the light foot batteries used four 6-pdrs and two 7-pdr howitzers, the heavy foot battery with six 12-pdrs, a total of 30 guns. Each gun had its own ammunition wagon, the 12-pdrs had two each.

### **Gun carriages**

Gun carriages from 1800–15 were of Austrian pattern, with a small box in the trail for tools and ammunition. The padded lid had seats for two gunners. The sight mechanism was a screw-driven wedge. The limber had a box for ammunition and the towing spike. On rough ground, a chain connected the gun to the limber.

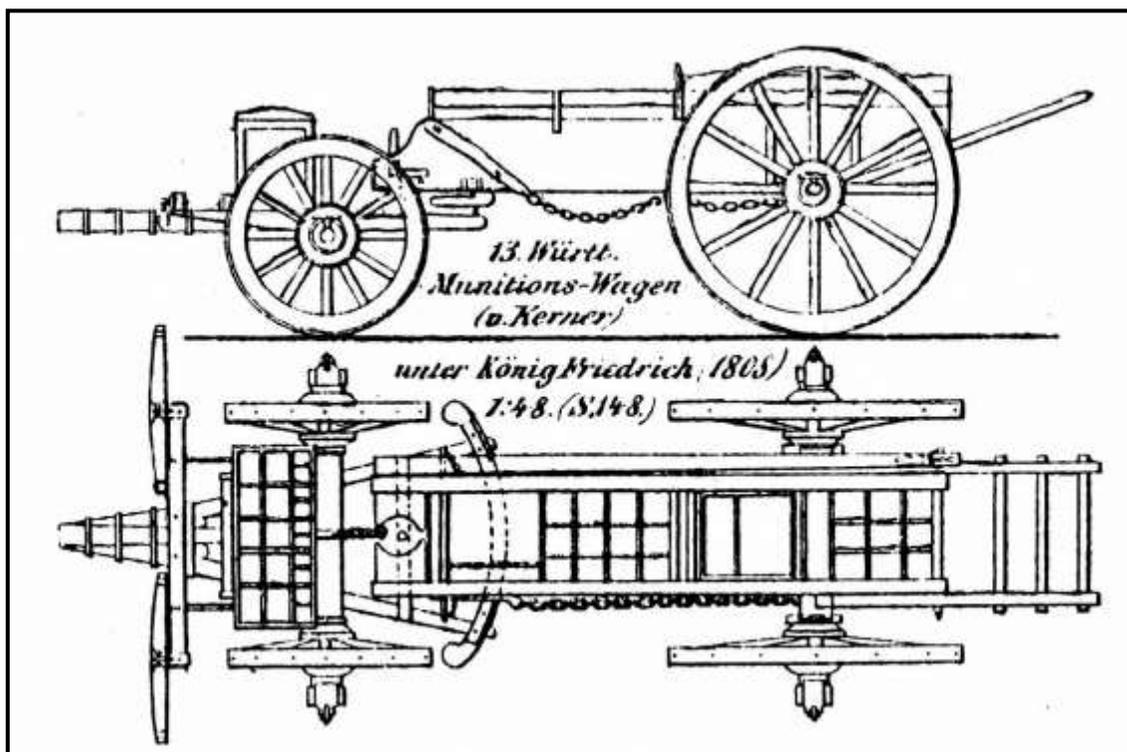


Pre-1808 Württemberg 12-pdr [Courtesy of NGA Archive]

### **Ammunition Wagons**

The ammunition wagons in this time were also of Austrian design, with small wheels. In 1808,

Oberstlieutenant von Kerner built a new pattern of ammunition wagon; it consisted of a limber and a rear section, which could be unlimbered, and which held 104 cartridges. These wagons were issued to the 6-pdr guns of the HA in 1809. Württemberg was thus one of the first nations to use this type of ammunition wagon with a limber.



M1808 Wurst Ammunition Wagon designed by OberstLt von Kerner.  
[Courtesy of the NGA Archive]

### **Gun ranges.**

On 15 May 1803 a series of test shoots was arranged outside Esslingen with the HA battery. The 6-pdr shot ranged to 1300 paces [975m] (first strike), the 12-pdr to 1600 [1200m]. The 6-pdr shot rolled on to 2200 paces [1650m], the 12-pdr to 2700 [2025m]. The howitzer threw its shell to 1300 paces [975m].