

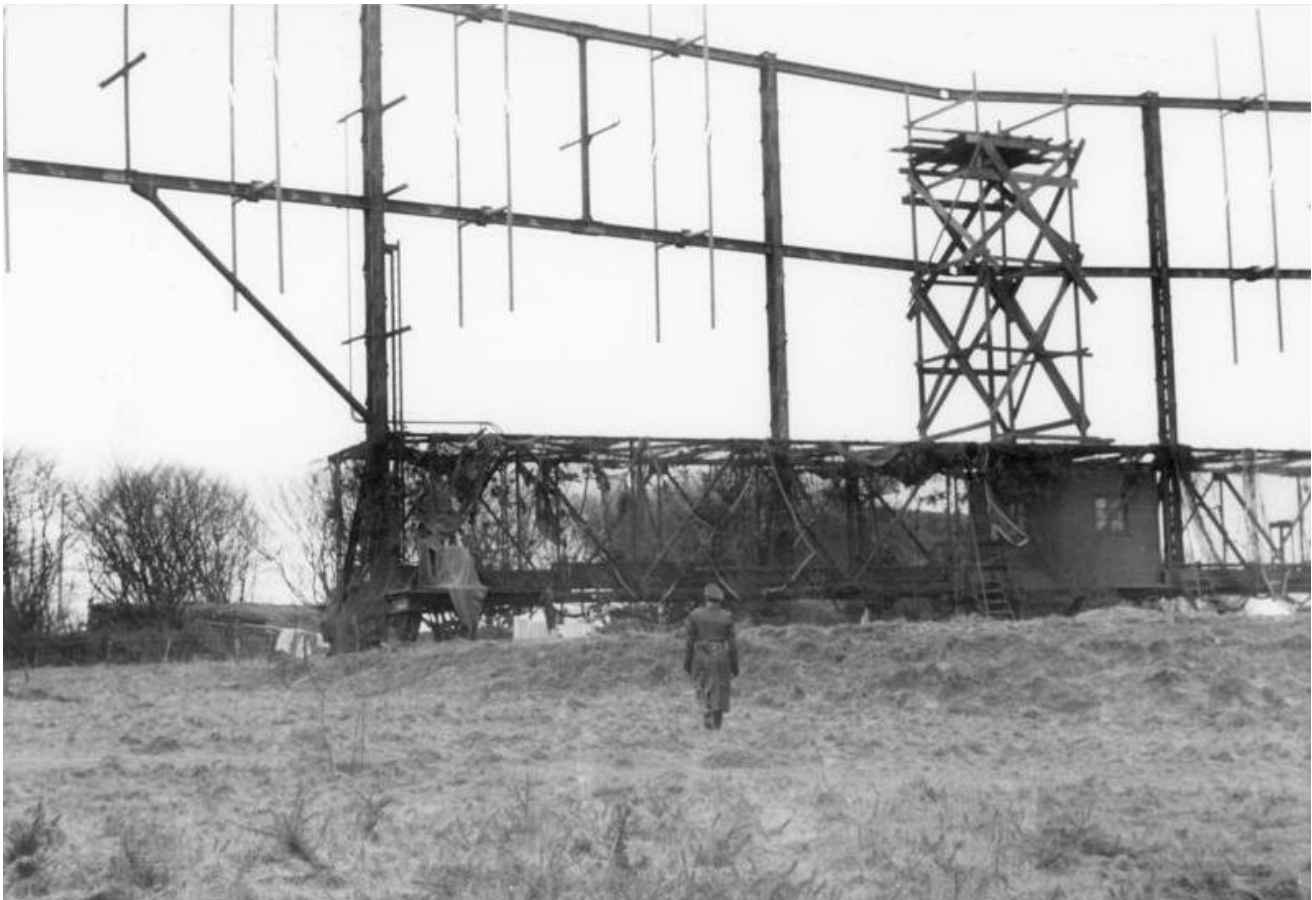


# Colorado Military Historians

Newsletter

L, No. 5

May 2024



German WWII Knickebein radar

# News and Views

*Message from CMH Secretary  
Eric Elder*



Thank you to Larry Irons sharing Bill Rinker's ham radio article on British attempts to track down German radar during WWII. Also, John Brown continues his series on ADLG (F) with another after action report.

A reminder we are looking for Board volunteers. Most importantly the Treasurer position. Larry will not be running again. Please contact a Board member which position you would like to volunteer for.

At the time of publication of this newsletter, we still have game slots available Saturday afternoon and Sunday. Contact Doug Wildfrong if you have a game you want to put on ([dwwild84@gmail.com](mailto:dwwild84@gmail.com)).



# April

## Unit of the Month

Sponsored by Hobbytown Westminster



Each month, at the monthly meeting, CMH members bring their latest painted figures and models to the meeting to display their latest efforts.

CMH Member	Scale	Manufacturer	Era	Unit
<b>JEFF LAMBERT</b>	1:144	Shapeways	WWI	Russian, Austrian, French
Dave Newport	28mm	Victrix	Ancients	Persians
Dave Manley	28mm	Firelock Games	1600-1700	Dutch Grenadiers, Mtr Gunner

Winner in **RED**

# Hams and the Blitz

Article by Denver Radio Club Member

Bill Rinker, W6OAV

Originally published in *The Roundtable*, April 2024 issue.

British hams played a crucial role in the Battle of Britain (the Blitz), providing essential support to the Royal Air Force (RAF) and helping to secure the Allied victory. This is the story of the ham's contributions.

## Background

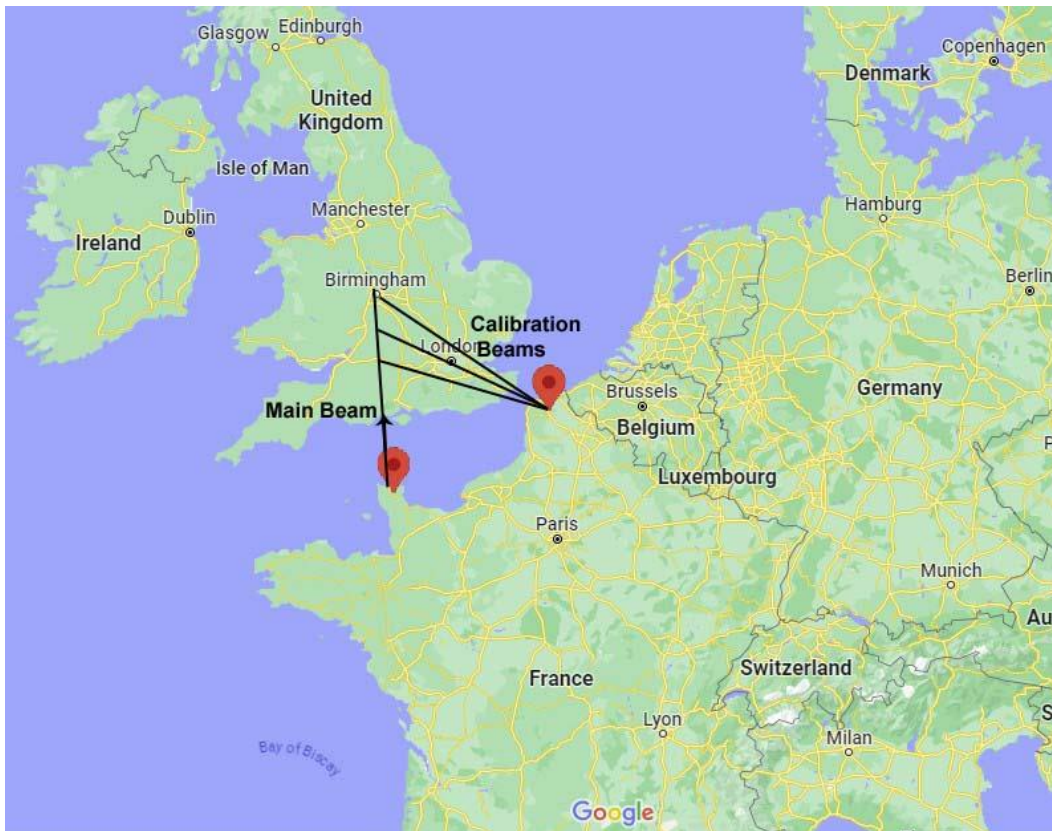
The Germans used two main radio navigation beam systems during the bombing of Britain during World War II: the Knickebein and later the X-Gerät.

Knickebein (Crooked Leg) was a radio navigation system that used two directional radio beams to guide German bombers to their targets. It operated at 30-33 MHz and was relatively accurate, with an error of about 0.9 miles at a range of 155 miles (See Figure 1). To use the system, a bomber would follow one beam listening to either the dots or dashes on that beam. When that beam intersected the other beam, the dots and dashes would combine producing a pure tone, indicating the target.



**Figure 1 - The Knickebein system**

X-Gerät (X-Device) was a more sophisticated 65-77 MHz radio navigation system that used a combination of beams and pulses to guide bombers to their targets. The system was very accurate, with an error of about 0.3 miles at a range of 155 miles. (See Figure 2). The X-Gerät system projected three narrow crossbeams across the main beam before the target, which allowed the aircraft's ground speed to be calculated and the bomb release point to be determined using a special "bombing clock".



**Figure 2 - The X-Gerät system**

Both Knickebein and X-Gerät were used during the Blitz, the period of sustained German air attacks on Britain from September 7, 1940 to May 11, 1941. The systems allowed the Germans to carry out night bombing raids with great precision, causing widespread damage and loss of life.

## **The British Hams Contributions**

In the early 1940s, the British were trying to figure out how the Germans were able to bomb their cities so accurately at night. They suspected that the Germans were using some kind of radio navigation system, but they didn't know what it was.

One day, a British ham named Reginald Kite discovered a strange radio signal. He reported the signal to the British government, and they soon suspected that it was part of a German radio navigation system.

The British government then recruited a group of hams to fly in planes equipped with American Hallicrafters S-27 receivers modified to operate on the aircraft's dc power. These planes were able to find and track what turned out to be the Knickebein beams. Before the British could build specialized systems to counter Knickebein, hams created makeshift jammers by appropriating 150 watt 27.12 MHz diathermy sets from local hospitals and connecting them to large antennas. The hams were later able to DF the German Knickebein transmitters which the British later bombed.

The British discovered the X-Gerät system after a German bomber equipped with it crashed in Scotland in November 1940. With the help of hams, they were able to study the recovered X-Gerät equipment.

Hams were very active in Britain during the Blitz. They played a vital role in the British war effort, helping to develop countermeasures to the German Knickebein and X-Gerät radio navigation systems. Hams also helped to monitor German radio traffic and to provide early warning of impending air raids.

The discovery of the Knickebein system by hams was a major turning point in the Battle of Britain. It allowed the British scientists with the aid of hams to develop counter measures and defend their cities from German bombing raids, and it helped the British to win the war.

The hams who helped to discover the Knickebein system were awarded the Order of the British Empire for their services. They played a vital role in the British victory in World War II.

The British government was very grateful for the contributions of hams to the war effort. After the war, the British government established the Radio Amateurs' Emergency Service (R.A.E.S.). The R.A.E.S. is a volunteer organization that provides radio communications support to the British government in times of emergency.

References (the first reference provides a very comprehensive and detailed overview of the topic):

“Battling the Radio Beams”, Parts 1 and 2:

[https://www.researchgate.net/publication/341592935\\_Battling\\_the\\_Radio\\_Beams](https://www.researchgate.net/publication/341592935_Battling_the_Radio_Beams)

Wikipedia – “Battle of the Beams”:

[https://en.wikipedia.org/wiki/Battle\\_of\\_the\\_Beams](https://en.wikipedia.org/wiki/Battle_of_the_Beams)

“The Wizard War” by R. V. Jones:

<https://www.barnesandnoble.com/w/the-wizard-war-r-v-jones/1127837805>

# April Game of the Month

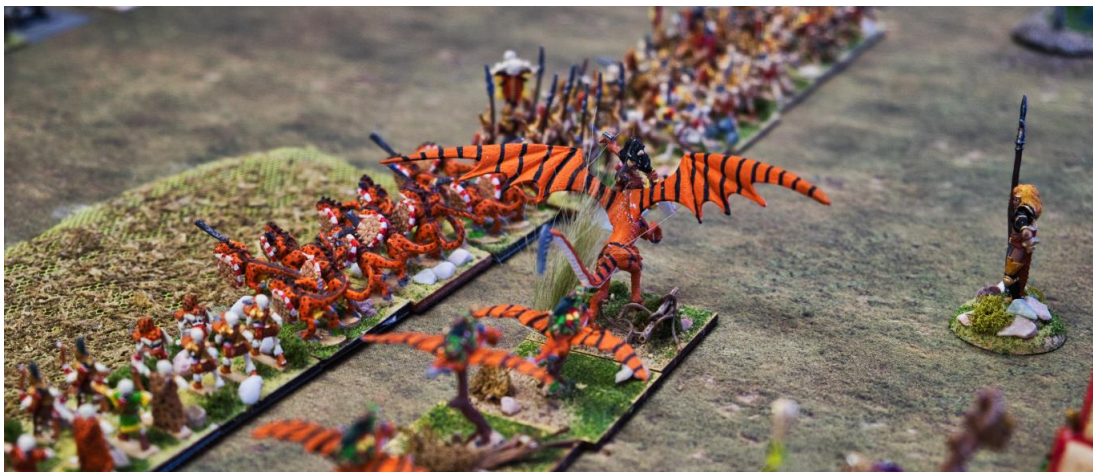
Sponsored by Hobbytown Westminster



Each month CMH members host games at the monthly meeting. This award is for the effort put out by the host.

CMH Member	Scale	Rules	Description
Jeff Lambert	1:144	Knight's Cross	Europe Fighter Sweep 1944
Dave Manley	28mm	Rank and File	Petersburg, 1781
Gary Stribling	10mm	Crossfire	Battle of Edson's Ridge
<b>JOHN BROWN</b>	15mm	ADLG (F)	2x Fantasy Scenarios
Eric Elder	28mm	Muskets and Tomahawks	Battle of Dumont Mill

**Winner in RED**



# Historic Location of the Month

## *Yangon, Myanmar (Rangoon, Burma)*

On May 11, 1824, a British amphibious assault took place at Rangoon. This surprise assault forced the Burmese soldiers to evacuate the city. The First Anglo-Burmese War lasted from March 1824 to February 1826.



Shwedagon Pagoda in Yangon





## West Wars Convention

<https://cmhweb.org/cmhconvention/>

**May 18**

**9am – 1pm**

- **Battle of the Eastern Solomons**
  - August 1942, Japanese naval forces are moving on Guadalcanal. US naval forces are in the area to try and intercept.
  - rules: Nimitz-Halsey
  - scale: 1:3000 ships, 1:700 planes
  - players: 3
  - GM: Eric Elder
- **Napoleonic Skirmish**
  - rules: Blood and Empire (modified Blood and Plunder)
  - scale: 28mm
  - players: 6
  - GM: Tim Parker
- **ACW Ironclads and Gunboats**
  - rules: Raiders and Blockaders
  - scale: 1:1200
  - players: 6
  - GM: Scott Hogan and Steve Van Dyke
- **A Case of Malt Ease Fall Con**
  - Rival gangs vie for the possession of a full case of the legendary malt liquor. The First Hurdle: Find it. The Second: Keeping It! Bring your own gang if you have one. Other gangs are avail to loan.
  - rules: Pulp Alley
  - scale: 28mm
  - players: 6
  - GM: Hugh Thompson and Doug Wildfong
- **The Fate of Empires – Zama 202 BCE**
  - Scipio Africanus the Roman vs Hannibal the Carthaginian in the last battle of the Second Punic War.

- rules: Commands and Colors – Epic Ancients
- scale: blocks
- players: 4
- GM: Matt Vigil
- **The Guns**
  - An old Austrian Fort is being abandoned and Its guns need to be moved to the new fort. The new location is on the other side of a bridge over an impassable river. The new fort will control the river and bridge.
  - rules: Column, Line and Square
  - scale: 25mm. Bring your Austrian and French troops if you wish.
  - players: 8
  - GM: Kurt Strein

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## 2pm – 6pm

- **France 1944**
  - rules: Command Decision: Test of Battle
  - scale: 15mm
  - players: 6
  - GM: Michael Brown
- **Battle of the River Plate**
  - Possible variant of history as the British ship mix will be diced for.
  - rules: General Quarters
  - scale: 1:2400
  - players: 4
  - GM: John Carter
- **The Guns (continued from morning)**
  - rules: Column, Line and Square
  - scale: 25mm. Bring your Austrian and French troops if you wish.
  - players: 8
  - GM: Kurt Strein

## May 19

**9am – 11:30am**

- **Swap and Sell Meet**
- 

**12pm – 1:00pm**

- **Club meeting**
- 

**1:00pm – 5:00pm**

- **ADLG Tournament**
  - Classical Period – 500 BC to 500 AD. 200 point Armies. Allies must match the army list time period.
  - rules: L'Art De La Guerre 4th Edition
  - scale: 15mm
  - players: 12
  - GM: Larry Irons
- **Another Day on the Grim**
  - The Queen's defenders intercept rumors of a fortified position blocking a crucial pass on the Northwest Frontier and send an expedition to carry out a reconnaissance in force. You are welcome to bring your 2nd Anglo-Afghan War, 1879-80, 25mm figures.
  - rules: Sword and the Flame, 20th Anniv. ed.
  - scale: 25mm
  - players: 8
  - GM: Jeff Lambert

# Elves, Orcs, Archosaurians, and Amazons – Oh My! The ADLG(F) Menagerie Grows with another Round.

*Article by Club Member*

*John Brown*

ADLG(F), our CMH in-house Fantasy version of the justifiably popular L'Art de la Guerre, entertained us through yet another round at the 14 April CMH meeting. Our rich mix of critters and capabilities continues to grow as players delve into their favorite fantasy worlds. Richard Kasten brought an army inspired by the Dinosaur Lords trilogy to face Greg Rold's "Green Legion" of Orcs and their allies. John Brown returned with the Predatory Archosaurian Amazons described in the last CMH Newsletter to face a Dwarf-Elf-Human Alliance enhanced by a Pegasus and an Ent led by Pat Harvey. Note that we use "Archosaurians" as a more inclusive term since it includes Pterosaurs and Crocodilians as well as Dinosaurs per se.

The Dinosaur Lords trilogy envisions a world wherein medieval humans have beast mastery over dinosaurs of various types. Hydrosaurid Cavalry ride apex bipedal herbivores. They are somewhat less lethal than the Tyrannosaurid Cavalry described in the last CMH Newsletter, but far easier to control. In particular, they will not go into a feeding frenzy that is difficult to recover from when successful in combat. Ceratopsian Cavalry are like Elephants, only better protected and more lethal. Ankylosaurs are like War Wagons on steroids, the closest one can get to an immovable obstacle that can move. Richard's army featured two Hydrosaurid contingents, three Ceratopsian contingents, and an Ankylosaur contingent supported by Pikes and Heavy Cavalry.



The Dinosaur Lords Sweep into Action Across an Open Field

Greg's Orcs featured a robust mix of bowmen, spearmen, and swordmen familiar in human armies. It also featured an entire command of "light horse" that was mounted on large wolves, an Ogre, a Troll, and two Ents. Ogres are outsized heavily armored swordsmen with two-handed weapons. Trolls are like them but also have regenerative capabilities. Ents are formidable if slow-moving tree-men who are particularly adept at ambushes in wooded areas. They make an enemy think twice about taking an unscouted route through a forest.

The Green Legion and the Dinosaur Lords clashed in terrain that had scattered rough patches around the edges but was open in the center. The Green Legion dispatched its wolf-mounted cavalry on a sweeping flank march but, unfortunately for them, these failed to arrive turn after turn. This gave the Dinosaur Lords time to trundle across the board, inflict heavy losses, and capture the Legion's camp with their own cavalry. The wolf-riders swept onto the Dinosaur Lords' flank and rear with punishing effects when they finally arrived, but they were too late to reverse the course of the battle. The bloodbath was close, but the Dinosaurs won on points.



The Wolf Riders Sweep into the Dinosaur Lords' Flank -- but too Late!

The Predatory Archosaurian Amazons fielded a Dragon-led Pterodactyl command, a Carnotaurid Cavalry command screened by Scalian (lizard man) light archers, and a great mass of Undead Skeletons supported by Tyrannosaurid Cavalry, Scalian Assault Troops, and Velociraptors. Opposing them was a command of sturdy Dwarves variously armed, a command of Elves proficient with both bow and sword, and a Human command including Knights and mixed units of Spearmen and Crossbowmen. This alliance also boasted two Mages with potent Fire Bolts and a Pegasus detachment capable of punching deep into the enemy rear.

These two armies met on a battlefield with a large swatch of rough terrain near the center of the board. Here the Archosaurian Amazons deployed a Cobra Gigantica in ambush to support the medium infantry Scaliens and Skeleton Archers they pushed into the brush. The opposing Alliance had the Elves on their right, the Dwarves in the center, and the Humans on their left. The Dragon-led Pterodactyls had begun on the Amazon left but reconsidered when they saw the firepower and Mage-launched Power Bolts available to the Elves. In their first move they radically repositioned, flying the length of the battlefield to instead face the Human command.



Dragon-Led Pterodactyls Reposition from Left Flank to Right

As the lines closed Skeletor formations were in front of the missile capable Elven and Human infantry. The Undead are virtually impervious to archery fire, so the Archosaurian Amazons took little damage during this phase of the battle. Meanwhile the Dragon-led Pterodactyls flew into the Human command's rear and pivoted a hundred and eighty degrees to attack from that direction even as the Humans came into contact with the Undead on their front. At about the same time the Amazon's Carnotaurid Cavalry burst from ambush to assail the Human left. The Humans inflicted heavy losses on the Undead but took heavy losses from their assailants on three sides. Thus, the Amazons traded cheap expendable troops for considerably more valuable ones. See-saw fighting elsewhere also favored the Archosaurian Amazons, adding to their eventual advantage.



Archosaurian Amazons and Skeletors Converge on the Opposing Flank

Our next major foray into ADLG(F) will be in July with our now annual matchup pitting Horus and Set with their adherents against each other as they continue to battle for the Stargate Edfu. In the meantime, CMH ADLG fans will be turning their attention to historical armies for the West Wars ADLG Tournament hosted by Larry Irons. The theme will be Ancients, with 15mm armies from 500 BC to 500 AD welcome. Loaner armies will be available.

# Wargame Conventions

[www.partizan.org.uk](http://www.partizan.org.uk)

## May

3rd - 5th May  
10th - 12th May  
17th - 18th May  
17th - 19th May  
17th - 19th May  
18th - 19th May  
19th May  
*xxx May*  
*xxx May*  
*24th - 26th May*  
24th - 26th May  
24th - 26th May  
24th - 27th May  
31st May - 1st June  
31st May - 2nd June

Richmond Open Con  
Midwest Conquest  
Drums at the Rapids  
Huzzah  
CanGames  
Sand Wars  
Ohio Toy Soldier Show  
Battle for Bismarck Bolt Action Tourney  
Canadian Team Yankee Nationals  
Canadian Tabletop Championships  
Enfilade  
PrairieCon  
GameX  
The Spring Offensive  
Diecon

Richmond, VA  
Independence, MO  
Perrysburg, OH  
South Portland, MA  
Ottawa, ON, Canada  
Mesa, AZ  
Wadsworth, OH  
Bismarck, ND  
Calgary, AB, Canada  
Ottawa, ON, Canada  
Tacoma, WA  
Brandon, MB, Canada  
Los Angeles, CA  
Burlington, NC  
Collinsville, IL

## June

7th - 9th June  
14th - 16th June  
19th - 23rd June  
*29th - 30th June*

Bayou Wars  
Napoleonic Miniatures Gaming Convention  
Origins  
FoW Southern Nationals

D'Iberville, MS  
Perrysburg, OH  
Columbus, OH  
Conroe, TX

Full list available here:

[Americas Wargame Calendar](#)

# Colorado Military Historians, Inc.

Colorado Military Historians (CMH) is a non-profit organization whose purpose is to promote historical wargaming and the study of military history. Founded in 1965, CMH meets monthly on the second Sunday of the month, except in May when the meeting is deferred to the third Sunday. The meeting starts at noon at the Baker Recreation Center, 6751 Irving Street (just a few blocks west of Federal Blvd), Denver, Colorado. The club also hosts gaming at least one Friday night a month, called “Friday Night Fights” (FNF) at 7:00 p.m. Friday meetings will be held at a future determined location. See website for latest information.



CMH maintains ties with numerous local, regional, and national groups to help promote the hobby. CMH is governed by member-elected officers serving on the Board of Directors (executive board). Terms of office are one year, with elections held at the May meeting. New members are accepted after attending three CMH functions and a vote of the membership. Dues are \$60.00 per year, payable in January. Members wishing to receive a snail-mailed newsletter subscription must pay an additional fee of \$15.00 per year. Authors retain ownership of articles and graphics published. CMH reserves the right to edit or reject submissions to the newsletter.

One year Adult Membership: \$60.00  
Half year Adult Membership: \$30.00  
(For NEW members who join after June 30)  
Family Membership: \$60.00 (one Adult and any number of offspring)  
Student Membership: \$30.00 (16 to 22 years old)  
Children: free (younger than 16 accompanied by member)

## Club Links:

Web Site: <https://cmhweb.org/>  
Facebook: <https://www.facebook.com/groups/cmhgamers/>  
Groups.io Group: <https://groups.io/g/cmhweb>  
Discord: <https://discord.gg/DAP2Gn>

## CMH Newsletter

The CMH Newsletter is a monthly newsletter published by the Colorado Military Historians. Views expressed in this publication do not necessarily reflect those of all CMH members.

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