

# Improving MK19 First Round Burst Accuracy Through Laser Range Finding



CDT Don Kim '05 D1

# Agenda

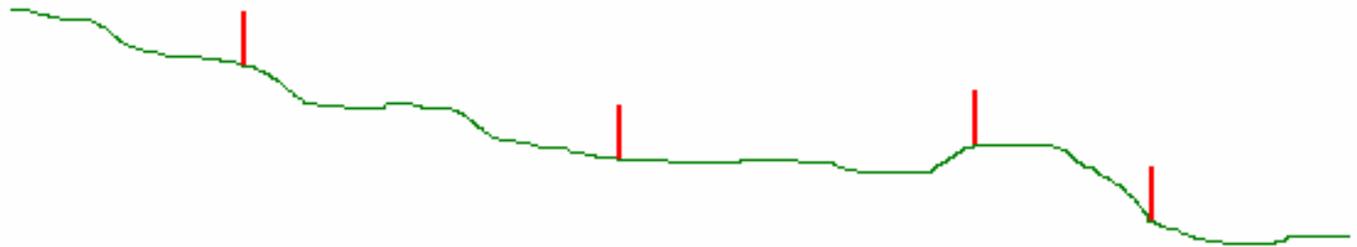
- Overview
- Initial testing
- Future Applications
- Questions

# Overview

- “Guesstimate” range finding highly inaccurate, particularly with horizontal deviations
- Round bursts obscure target
- Testing information not available
- Solution: improve first round burst accuracy
- Laser range finder, ballistic computer
- Daytime TV, thermal imager

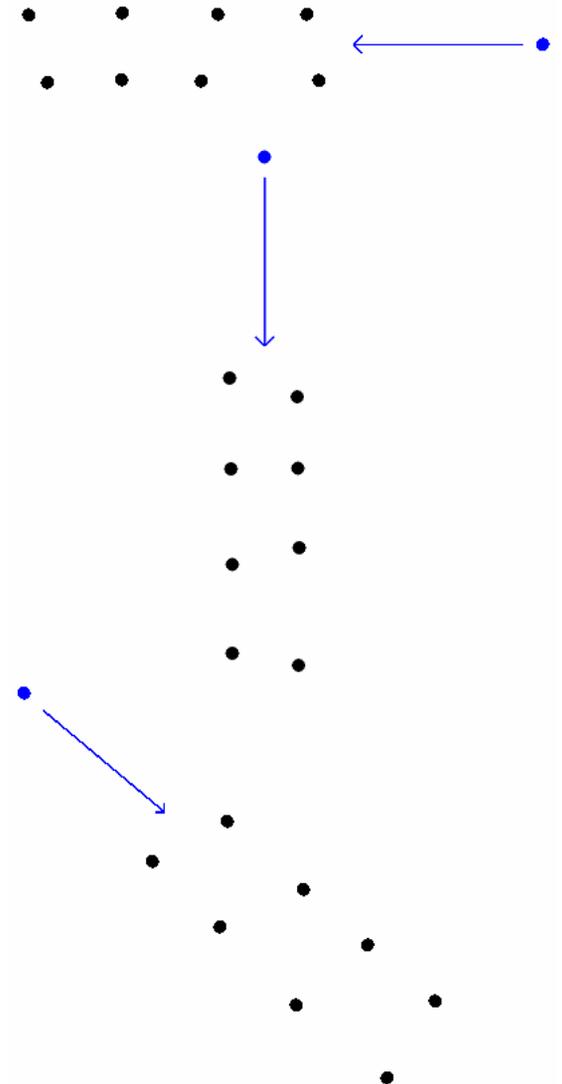
# Initial Testing

- Single targets
- Similar to BRM
- Minute horizontal/ vertical deviations could lead to large range variations
- Precision precludes use on moving vehicles
- Awkward to employ: 5 step process, separate eyepiece

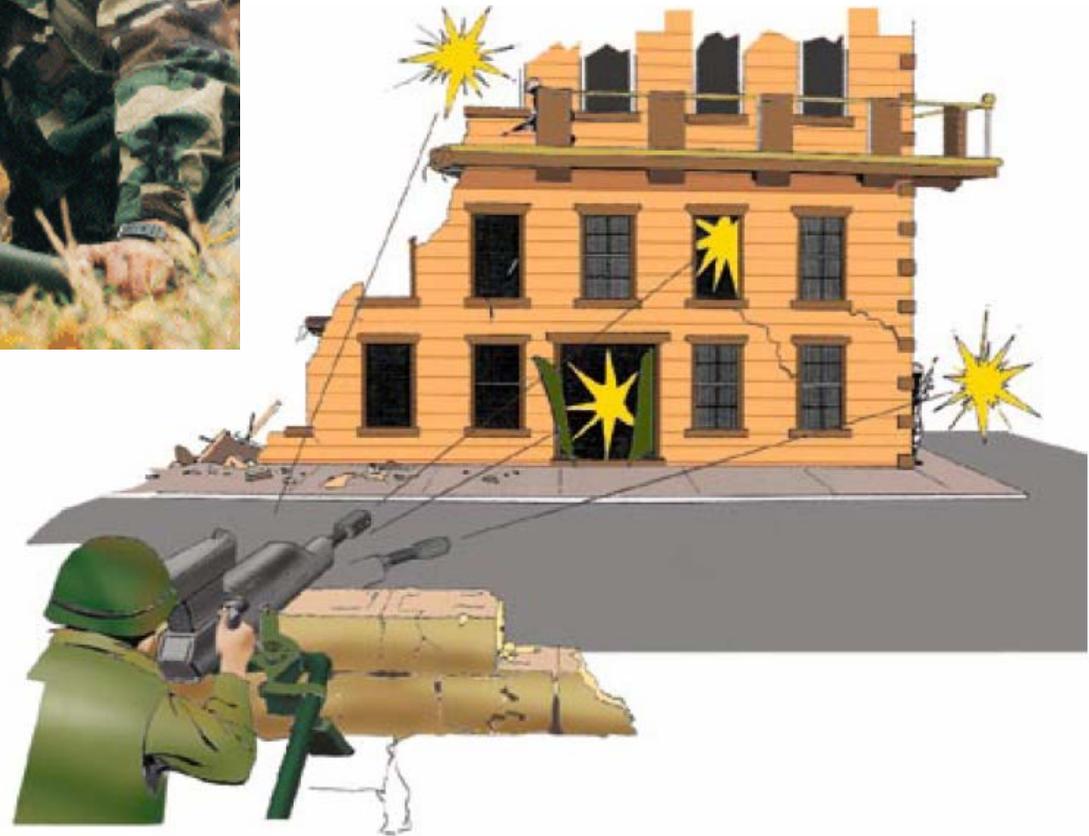


# Initial Testing

- Moving target used to designate group targets
- Test effectiveness of system: not a detection study
- User difficulties compounded with increased range/moving targets
- Minor/smooth corrections difficult due to system weight



# Future Applications: OCSW



# Other Considerations



Questions?

# Acknowledgements

- Samuel Wansack, Systems Engineer, US Army Weapons Material Research Directorate
- Richard Haddox, Engineering Psychologist, US Army Weapons Material Research Directorate
- Christopher Mermagen, Electrical Engineer, US Army Weapons Material Research Directorate

# Sources

- [www.usmc.mil/marinelink/mcn2000.nsf/0/B593BF0DA70DD8F485256D88002E922C?opendocument](http://www.usmc.mil/marinelink/mcn2000.nsf/0/B593BF0DA70DD8F485256D88002E922C?opendocument)
- [www.army.mod.uk/rhf/the\\_origin\\_of\\_the\\_regiment/](http://www.army.mod.uk/rhf/the_origin_of_the_regiment/)
- [www.aeronautics.ru/archive/macedonia/photos01/mac0079.jpg](http://www.aeronautics.ru/archive/macedonia/photos01/mac0079.jpg)
- [www.aphill.army.mil/scheduling.asp](http://www.aphill.army.mil/scheduling.asp)
- [www.september11news.com/DailyTimelineDec.htm](http://www.september11news.com/DailyTimelineDec.htm)
- [www.bristoluotc.mod.uk/about\\_us.htm](http://www.bristoluotc.mod.uk/about_us.htm)
- [www.busphotos.co.uk/BUS%20EIREANN-89-D-52214-2002.jpg](http://www.busphotos.co.uk/BUS%20EIREANN-89-D-52214-2002.jpg)
- [www.army-technology.com/projects/abrams/abrams8.html](http://www.army-technology.com/projects/abrams/abrams8.html)
- [www.globalsecurity.org/wmd/library/news/iraq/2003/iraq-030406-centcom11-sideshot-car-checkpoint.jpg](http://www.globalsecurity.org/wmd/library/news/iraq/2003/iraq-030406-centcom11-sideshot-car-checkpoint.jpg)
- [http://www.angelfire.com/home/stephenperry/marines\\_and\\_things.htm](http://www.angelfire.com/home/stephenperry/marines_and_things.htm)
- <http://www.waffenhq.de/infanterie/ocsw.html>
- <http://www.dtic.mil/ndia/gun/kenney.pdf>