

Smith Enterprise, Inc



M21A5/14SEI,
M14-18, and MK14 SEI
Programs and Systems Overview
January 2008

M21A5/M14SEI OVERVIEW



Program Rationale

- 96,000 Condition Code “A” M14s in inventory.
- Will realize significant taxpayer savings over foreign or AR-based (i.e. XM110) designs.
- M14s can be brought to better than new condition.
- Previous M-14/M-21/M-25 problems solved.
- Proven M-14 reliability.
- M-14SE meets or exceeds accuracy of competing semi-auto sniper systems.

M14SE Program Guidance

- Reduce everything to it's primary function;
- Focus on clear and timeless form;
- Combine traditional craft and high technology.

Problem areas in previous designs

- No DA standards in both design and execution.
- No established QA/QC.
- Glass bedding.
- Knurling of barrel.
- Barrel stretch.
- Inability to reliably mount sound suppressor.
- Overall fragility in combat environment.



What does SEI reutilize in this process?

- Receiver
- Bolt
- Operating Rod
- Trigger Assembly
- Metal Furniture
- Rear Sight Assembly
- Synthetic stock and forearm



M21A5/M14SEI Key Components

- **M21A5/M14SEI Barrel** , P/N 9345206-22, CM 4140, 1:10 ROT, 22.0" (M14SE) or P/N 9345206 -18 18.0" (M14-18 & MK14 SEI).
- **Gas Lock Front Sight (GLFS)** – 3 types.
- **Vortex DC Suppressor Ready Flash Hider.**
- **Extended Bolt Stop Release (EBSR).**
- **M14DC Sound Suppressor (Rebuildable).**
- **Standard 4.5 Lb. Sniper Trigger Pack.**

Key Components (Continued)

- Three SEI M-14 NSN Scope Mount Options.
- SEI Heavy Duty 30mm Low Ring Set NSN 1005-01-535-4417.
- SEI Heavy Duty 30mm Medium High Ring Set NSN 1005-01-535-4423.
- USGI fiberglass stock Modified for accuracy and optional SEI Tri –Rail System with Bipod.
- “Long Life” Trigger Package with Tool Steel Pins and Silicone Chrome Hammer Spring.
- Tool Steel Connector Lock Link Pin

SEI Rifle Barrel



- 4140 Chrome Moly, 1:10 Rate of Twist (ROT),
- Medium Heavy Profile.
- Chambered for M118LR Special Ball (AA11).
- Available in 18.0" and 22.0" bbl lengths.
- Used by US Army & US Air Force.

Gas Lock Front Sight (GLFS) & Vortex® Flash Eliminator

- Enables use of M14DC Quick-Disconnect suppressor.
- Three types available.
- Most effective flash hider in the world – *period*.
- Eliminates barrel stress (i.e. self tightening)
- 8620 Bar Stock Steel (Heat treated).
- Used by US Army & US Air Force & US Navy.



M14 Extended Bolt Stop

- Ideal for cold weather and rapid mag swap.
- 8620 Heat-Treated Steel, RC 35-38 Core, RC 58-60 Surface.
- Used by US Army & US Air Force & US Navy.



M14 Scope Mount, 5" Rail

NSN 5855-01-506-5750



- Wire EDM manufactured for zero stress.
- 8620 Steel construction, RC 58.
- M80HT Heat-Treatment (Corrosion-Resistant).
- Standardized by US Army's 2ID, 25ID, 101 ABN.
- SEI P/N 2006.

**M14 Scope Mount/AGOG 5”
Picatinny Rail
NSN 1005-01-53-4430**

- Wire EDM manufactured for zero stress.
- 8620 Steel construction, RC 58.
- M80HT Heat-Treatment (Corrosion-Resistant)
- Standardized by US Army's 2ID, 25ID and 101 ABN.
- SEI P/N 7008

M14 Scope Mount, 7" Rail

NSN 1005-01-53-8160

- Wire EDM manufactured for zero stress.
- 8620 Steel construction, RC 58.
- Melonited.
- Standardized by US Army's 2ID, 25ID and 101 ABN.
- SEI P/N 7008

M14 Scope Mount, 7'' NSN 1005-01-533-8160



- Ideal for large diameter optics.
- Also for CQB optics and pocket night vision on common rail.
- All SEI scope mounts are Cantilever Rail Capable and are made from 4140 Bar Stock.

PVS 22 Cantilever



- **M14 PVS 22 Cantilever Mount System (Patent Pending)**

Heavy Duty (HD) NSN 30mm Rings

Constructed from 4140 CM
Bar Stock Steel.

- 0.25" Low Rings
NSN 1005-01-535-4417,
SEI P/N 7002
- 0.50" High Rings
NSN 1005-01-535-4423,
SEI P/N 7018.
- Used by US Army's 2ID,
25ID and 101 ABN.



Heavy Duty (HD) NSN 30mm Rings

- 0.25" Low Rings

NSN 1005-01-535-4417, SEI P/N 7002

These rings work best with 40-44mm Objective Scopes

- 0.50" High Rings

NSN 1005-01-535-4423, SEI P/N 7018.

These rings work best with 50-54mm Objective Scopes

Standard Sniper Trigger Package

- Factory set at practical 4.5 pounds.
- Completely rebuilt with replacement parts as needed.
- SEI S-7 tool steel trigger pins.
- Chrome silicon hammer spring.
- Used by US Army & US Air Force & US Navy.



USGI Synthetic Stock

- Extremely solid, proven design.
- No need for bedding with M21A5/M14SE conversion.
- Light weight.
- Inexpensive.



M21A5/SEI M14SE Tri-Rail, MIL-STD-1913



- Two side rails for PEQ-2A/PAQ-4 series.
- Bottom rail for quick disconnecting bipod.
- Factory option or easy install at –20 Maintenance level.

M14 DC Sound Suppressor

- Only totally rebuildable suppressor in DOD.
- Hard Chrome Plated Stainless Steel internals.
- Titanium coupling unit with 300-Series Stainless body.
- Mounts on SEI VORTEX Flashhider
- Adopted by US Army 2ID.



M14 DC Sound Suppressor



- Standard Suppressor, 1.9 lbs, SEI P/N 001AK
(Short Full-Auto bursts of fire)
- Lightweight Suppressor, 1.4 lbs, SEI P/N 002AK
(For Semi-Auto use ONLY)

Leupold Mark 4 3.5-10X40 LR/T M3 Tactical Telescopic Scope



- Very practical for *ALL* ranges.
- Optional Leupold Dark Earth M2 with TMR/Illum, P/N 62150.
- Other Leupold Scopes available upon request.
- Used by US Army's 2ID, 25ID, 101 ABN.

Key Conversion Processes

- Detailed disassembly and inspection of all parts to be re-utilized.
- Gas cylinder Refurbishment program with M80HT Heat-Treatment (Corrosion-Resistant).
- Operating Rod refurbishment as needed.
- Trigger Group rebuilt/upgraded (Match Grade).
- Receiver Inspected for cracks, damage, etc.
- Cryogenic treatment of receiver, bolt and barrel.
- Upgraded Gas Piston.

Key Procedures - continued

- Laser-aligned barrel installation.
- Modern springs and pins installed throughout.
- Magnesium Phosphate-Black refinished where required
- Function checked and zero live-fire certification at 100 meters.
- For use with SEI M14DC suppressor.

M14SE-18 Battle Rifle



M14-18 Project Rationale

- Commanders have demanded a *hard-hitting, reliable, & accurate, rifle to 600M+.*
- The 5.56mm M16A4 is *not* the definitive answer.
- The M14 platform is readily available.
- “Minute of Torso” is all that’s needed in the real world, SEI M21A5 Rifles will shoot minute of angle.

M14-18: How does it differ?

- Same manufacturing techniques as M14SE except:
- 18" Medium-Heavy Match Grade Barrel , *M118LR*-chambered barrel.
- No requirement to unitize the gas system.
- Suitable for hard kills at 600M+
- Options remain the same as M12A5/
SEI M14 22" Barrel.

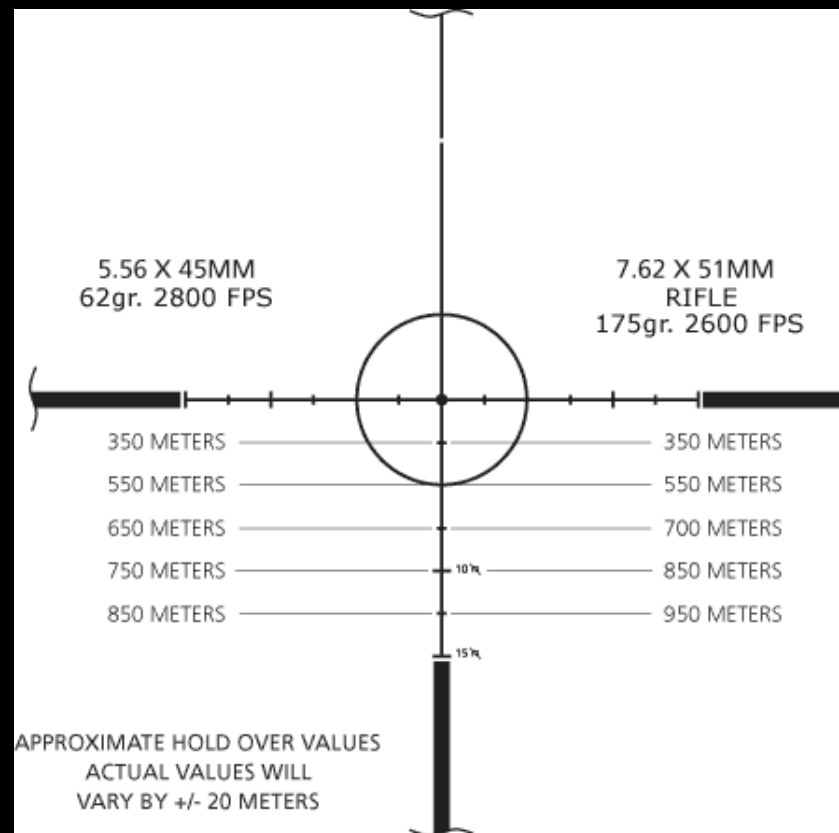
Ideal Optic for M14-18 Battle Rifle



- Leupold Mark 4 1.5-5X20mm M2 w/Illum SPR.
- Can be employed on 5.56mm and 7.62mm rifles.
- *Easy to learn reticle pattern.*

Special Purpose Reticle (SPR): Versatile and Fast

- Useful in 7.62 *and* 5.56mm NATO.
- A scope for all reasons (CQB to 950M).



MK14 SEI, 7.62mm NATO Overview



MK14 SEI: A most versatile platform

- A highly improved MK14 Mod 0.
- Major components adopted by USN & USAF.
- Suitable for Sniper, DMR and close combat.
- Endless options.



MK14 SEI Components currently in use

- DC Vortex Flashhider
- Gas Lock Front Sights
- Extended Bolt Stop Release
- NSN Scope Mounts
- NSN Rings
- 18" M21A5/SEI M14
- S-7 Trigger/Hammer Pins & Connector Link Pin
- Chrome Silicon Hammer Spring

MK14 SEI Project Rationale

- Basically same as M14SE/M14-18.
- Improved upon USN-built product.
- Provide SOF, light and mechanized units a highly flexible and short OAL platform.
- Suitable for rapid, mass production.

Summary

The M14SE program is succeeding simply because....

- The M21A5/M-14SE and the MK 14 meet all requirements for accuracy, reliability and maintainability at about 1/3 the cost of the XM-110.
- The M21A5/M-14SE and Mark 14 systems are in production now and are in operational combat use in Iraq and Afghanistan.

Summary

SEI has the capability to process 30 rifles per month and could exceed that quantity, if needed.

What are your questions?

- Availability?
- Pricing?
- Options?



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