

**FM 3-01.48**

**DIVISIONAL AIR AND MISSILE DEFENSE  
SENTINEL PLATOON OPERATIONS**

**DECEMBER 2003**

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**HEADQUARTERS  
DEPARTMENT OF THE ARMY**

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# **DIVISIONAL AIR AND MISSILE DEFENSE SENTINEL PLATOON OPERATIONS**

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## Preface

This field manual (FM) describes the organization and employment of the digitized air and missile defense (AMD) Sentinel platoon, sections, and teams. The term Sentinel incorporates the C<sup>2</sup> node, radar, and associated equipment. C<sup>2</sup> and C<sup>3</sup> are interchangeable. This FM is to be used by the AMD Sentinel platoon leader and soldiers organic to Heavy and Light Divisional AMD battalions and AMD batteries supporting those respective Heavy and Light Divisions, Light/Heavy ACRs, and Separate Brigades.

This publication implements the following International Standardization Agreements (STANAGs):

STANAG	TITLE	EDITION
2014	Formats for Orders and Designation of Timings, Locations and Boundaries	9
2019	Military Symbols for Land Based Systems—APP-6(A)	4
2241	Land Operations—ATP-3.2	1
3880	Counterair Operations—ATP-42 (B)	3

The proponent for this publication is HQ TRADOC. Send comments and recommendations on DA Form 2028 to Commandant, US Army Air Defense Artillery School, ATTN: ATSA-DT-WF, Fort Bliss, TX 79916-3802. Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

## Chapter 1

# Organization and System Capabilities of the Sentinel Platoon

This chapter discusses the mission, organization, system capabilities, limitations, responsibilities, and early warning of digital divisional AMD Sentinel operations. The digitized Sentinel platoon provides 24-hour early warning (EW) to AMD battalions, batteries, platoons, sections, fire units, and AMD liaison officers (LNOs) which support the maneuver force. This digital early warning supports AMD elements in their mission to defeat enemy air attack platforms, deny enemy RISTA capabilities, and destroy low-level cruise missile threats. Digital early warning to AMD forces is necessary to minimize losses and maneuver effectively to win on the modern battlefield.

### MISSION

1-1. The Forward Area Air Defense Command, Control, Communications, and Intelligence (FAAD C<sup>3</sup>I) system supports divisional AMD forces by facilitating the processing of critical C<sup>3</sup>I information to higher, adjacent, and lower units. The FAAD C<sup>3</sup>I function involves the detection, acquisition, and identification of helicopters, fixed-wing aircraft, cruise missiles, and unmanned aerial vehicles; the distribution and dissemination of C<sup>3</sup>I data among the AMD units and combined arms elements; the provision of early warning to the rest of the force; and the alerting of all forces to transiting enemy aircraft. To enhance functionality of the FAAD C<sup>3</sup>I system, it is integrated into and inter-operates with both the Army Battle Command Systems and AMD systems.

### ORGANIZATION

1-2. This section describes the organization of the Sentinel platoon found in a digitized divisional AMD battalion. The unit MTOE provides detailed information on unit personnel and equipment authorizations. The digitized Sentinel platoon consists of a platoon headquarters, a maintenance section, and three C<sup>3</sup>I Sentinel sections. See Figure 1-1.

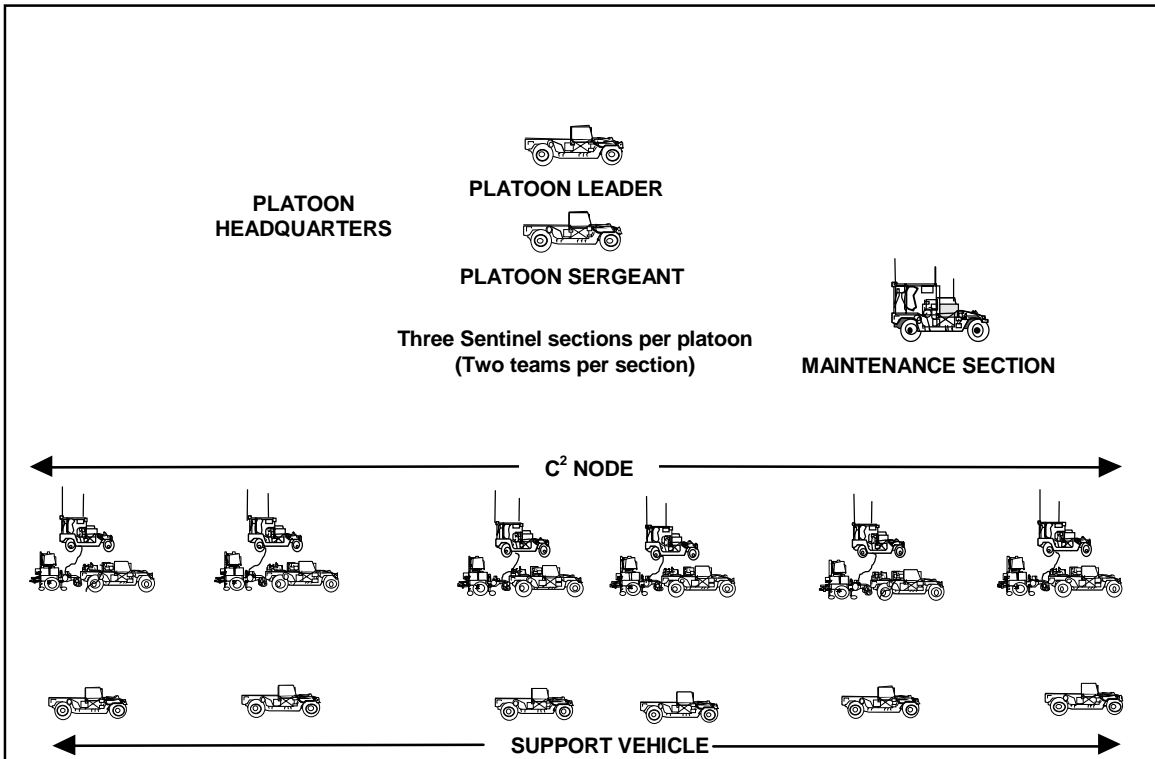


Figure 1-1. Sentinel Platoon Configuration

**HEADQUARTERS**

1-3. Headquarters provides the overall command and control of the platoon. Duties and responsibilities of headquarters personnel are addressed later in the chapter. Table 1-1 provides a listing of authorized personnel in the headquarters section, and Table 1-2 provides a listing of authorized equipment.

Table 1-1. Headquarters Section Personnel

QUANTITY	TITLE	RANK	MOS
1	Platoon leader	2LT	14B00
1	Platoon sergeant	SFC	14J40
1	Vehicle driver	PFC	14J10

Table 1-2. Headquarters Section Equipment

QUANTITY	ITEMS
1	Alarm, chemical agent, automatic: portable manpack M8A1
2	Truck utility: cargo/troop carrier 1-1/4 ton 4x4 W/E HMMWV
2	Navigation set: GPS receiver (PLGR)
1	Navigation set, satellite systems: AN/PSN-11
1	Night vision goggles: AN/PVS-5
4	Night vision goggles: AN/PVS-7B
1	PJH surface vehicle radio set: AN/VSQ-2 (V) 1 (PJHI)
1	HF radio set: AN/GRC-193A
1	Radio set: AN/VRC-91A
1	Radio set: AN/VRC-91D
1	Radio set: AN/VRC-92A
1	Radio set: AN/VRC-92D
1	Radio set: AN/VRC-92F
1	Radio set: AN/GRC-106
1	Radiac set: AN/UDR-13
1	Radiac set: AN/VDR-2
1	Radiac meter: IM-93/UD
1	Radiac meter: IM-174/PD
1	KY-99: MINTERM
1	Antenna group: OE-254/GRC
2	Cable telephone: WD-1/TT DR-8 1/2KM
1	Alarm, chemical agent, automatic: M22
4	Camouflage, screen support system: woodland/desert
4	Camouflage screen system: Ultra-lightweight radar scattering general-purpose
2	Camouflage screen system: Woodland light weight radar scattering without support system
1	Reeling machine cable hand: RL-39
1	Telephone set: TA-312/PT
2	Monitor chemical agent
1	Tape reader general purpose: KOI-18/TSEC
1	Power supply vehicle: HYP-57/TSEC
1	Mast antenna 10 meters: AB-903/G
2	Data transfer device: AN/CYZ-10
1	Electronic transfer keying device: KYK-13/TSEC
1	Net control device: KYX-15/TSEC
2	Computer set digital: AN/UYK
1	Antenna: RC-292
1	Battery case: Z-AIJ-E1
1	Alarm monitor group: NBC tactical vehicle/area warning



## MAINTENANCE SECTION

1-4. The maintenance section is responsible for the operational readiness of all Sentinel-related equipment. Table 1-3 provides a listing of authorized personnel in the maintenance section, and Table 1-4 provides a listing of authorized equipment.

**Table 1-3. Maintenance Section Personnel**

QUANTITY	TITLE	RANK	MOS
1	Maintenance supervisor	SSG	35M30
1	System radar repairer	SGT	35M20
1	System radar repairer	SPC	35M10
1	System radar repairer	PFC	35M10

**Table 1-4. Maintenance Section Equipment**

QUANTITY	ITEMS
2	Truck, utility: cargo/troop carrier, 1 1/4 ton, 4x4, W/E (HMMWV)
2	Navigation set: GPS receiver
2	Radio set: AN/VRC-90A
2	Radio set: AN/VRC-90D
2	Multimeter digital: AN/PSM-45
4	Night vision goggles: AN/PVS-7B
2	Oscilloscope, DC 100MZ: AN/USM-488
2	Tool kit: electronic maintenance Sentinel
3	Tool kit: radar maintenance Sentinel
2	Test set radio frequency power: AN/USM-491
2	Test set: elect sys AN/PSM-95 for soldiers port on-system repair tool
4	Camouflage screen system: woodland lightweight radar scattering without support system
4	Camouflage screen support system: woodland/desert
4	Camouflage screening system: ultra-lightweight radar scattering general purpose
1	Cable telephone: WD-1/TT DR-8 1/2 KM
2	Data transfer device: AN/CYZ-10
2	Radiac set: AN/UDR-13
2	Radiac meter: IM-93/UD
1	Reeling machine cable hand: RL-39
1	Telephone set: TA-312/PT
1	Maintenance kit: supplemental (Sentinel)
2	Navigation set satellite system: AN/PSN-11
1	Alarm monitor group: (MICAD) NBC tactical vehicles/area warning
2	Computer set digital: AN/UYK
2	Radio set: AN/VRC-90F
2	Navigation set: GPS receiver

## SENTINEL RADAR SECTIONS

1-5. The Sentinel platoon consists of three digitized Sentinel radar sections, two Sentinel teams per section. Teams normally work in pairs when deployed. These sections make up the FAAD C<sup>3</sup>I architecture of the Sentinel platoon. Table 1-5 provides a listing of authorized personnel in the sections. Table 1-6 provides a listing of authorized equipment in the sections.

**Table 1-5. Sentinel Radar Sections Personnel**

QUANTITY	TITLE	RANK	MOS
3	Section sergeant	SSG	14J30
3	Team chief	SGT	14J20
12	EWS operator	SPC	14J10
12	EWS operator	PFC	14J10

**Table 1-6. Sentinel Radar Sections Equipment**

QUANTITY	ITEMS
6	Air conditioner: 115V, AC, 1PH, 50-60 CY 9000 BTU
30	Alarm, chemical agent, automatic: portable, manpack, M8A1
6	Alarm: chemical agent automatic M22
12	Antenna group: OE-254()/GRC
6	Binocular: modular construction MIL scale reticle, 7x50MM W/E
12	Control, receiver-transmitter: C-11561
6	Battery case: Z-AIJ-E1
18	Cable telephone: WD-1/TT DR-8 1/2 KM
60	Camouflage screen support system: woodland/desert
6	Camouflage screen system: woodland, lightweight, radar scattering, without support system
6	Communications control set: AN/TSQ-183A
6	Data transfer device: AN/CYZ-10
3	Electronic transfer keying device ETKD: KYK-13/TSEC
12	Generator set: DED TM: 10 KW, 60 HZ, mounted on M116A2 PU-798
6	Generator set: DED skid-mounted, 10 KW, 400 HZ
6	Radar set: Sentinel AN/MPQ-64
6	KY-99: MINTERM
6	Indicator bearing distance heading (Patriot)
6	Night vision goggles: AN/PVS-5
36	Night vision goggles: AN/PVS-7B
18	PJH surface vehicle radio set: AN/VSQ-2
6	Radiac set: AN/VDR-2
6	Radio set: AN/GRC-213
6	Radiac set: AN/UDR-13
3	Alarm, monitor group: NBC, tactical vehicles/area warning
6	Radiac meter: IM-93/UD
6	Radiac meter: IM-174/PD
12	Reeling machine cable hand: RL-39