

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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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 C² node, radar, and associated equipment. C² and C³ 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 C³I) system supports divisional AMD forces by facilitating the processing of critical C³I information to higher, adjacent, and lower units. The FAAD C³I function involves the detection, acquisition, and identification of helicopters, fixed-wing aircraft, cruise missiles, and unmanned aerial vehicles; the distribution and dissemination of C³I 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 C³I 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 C³I Sentinel sections. See Figure 1-1.

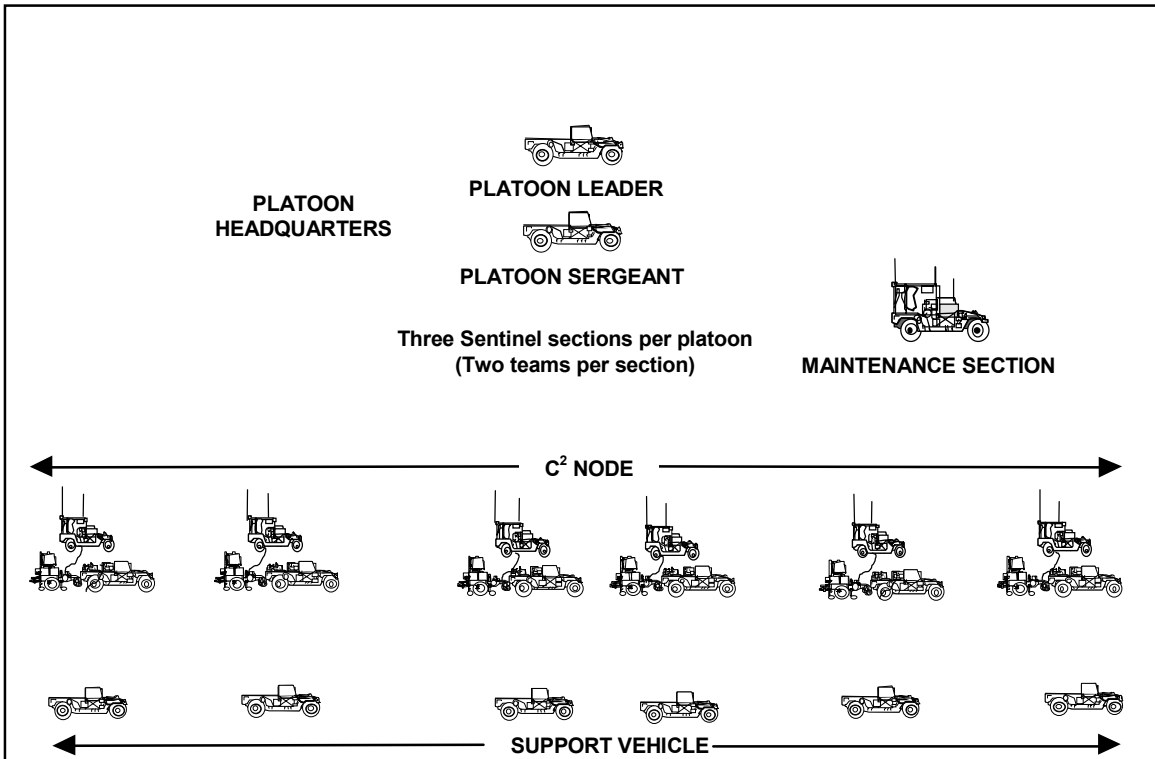


Figure 1-1. Sentinel Platoon Configuration

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 C³I 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

Table 1-6. Sentinel Radar Section Equipment (continued)

QUANTITY	ITEMS
6	Truck utility: heavy variant HMMWV, 4X4, 10000 GVW, W/E
3	Tape reader, general purpose: KOI-18/TSEC
6	Truck, utility: cargo/troop carrier 1 ¼-ton, 4X4, W/E (HMMWV)
6	Test set: electrical system AN/PSM-95 for soldiers port on-system rep tool teq
6	Power supply, vehicle: HYP-57/TSEC
6	Water heater: mounted/ration used on M1 tank & M2 fighting vehicles
60	Camouflage screening system: ultra-lightweight radar scattering general purpose
6	Radio set: AN/VRC-90F
6	Interrogation set: AN/TPX-56
6	Radio set: AN/GSQ-20
6	Radio set: AN/GRC-106
6	HF radio set: AN/GRC-193A
12	Radio set: AN/VRC-90A
12	Radio set: AN/VRC-90D
6	Radio set: AN/GRC-106
6	Navigation set: GPS receiver
6	Navigation set satellite systems: AN/PSN-11
12	Mast antenna, 10- meters: AB-903/B
6	Computer set, digital: AN/UYK
6	Common hardware maneuver control system

RESPONSIBILITIES

1-6. Providing digitized early warning to the force requires a team of trained and disciplined soldiers. Therefore, soldiers and leaders within the Sentinel platoon must be trained and knowledgeable on the entire digital early warning spectrum and serve as the FAAD C³I subject-matter experts to the air and missile defense force. Sentinel platoon personnel demonstrate their subject-matter expertise by providing timely and accurate early warning to the entire force 24 hours a day. They further support the force by integrating into the supported force planning process and assist with overall FAAD C³I management.

SENTINEL PLATOON LEADER

1-7. The Sentinel platoon leader is responsible for the morale, welfare, discipline, and training of his platoon, and for molding his platoon into an effective fighting force capable of performing its combat mission. He is further responsible for the operational readiness and accountability of all assigned equipment. In addition to his platoon leadership requirements, the Sentinel platoon leader is further responsible for executing a defined set of duties and responsibilities as the senior FAAD C³I expert in the AMD battalion. Because of this, he must be a senior lieutenant of proven competency and of the highest quality. Those duties and responsibilities are as follows: