

COMPARATIVE ANALYSIS: TMS vs DMS Structure Redesign

Date: 05 January 2026, 14:03 PM -03

Status: IN PROGRESS — Awaiting DMS assessment

Current Document Version: v0.1.2+20260105

Target Version: v0.1.3+20260105 (PATCH)



BASELINE: AGREED TMS STRUCTURE (CONFIRMED)

Problem with Current TMS Structure (v0.1.2)

- HSD/HSI/DED (Situational Awareness) displays were scattered across A-A and A-G sections
- No dedicated section for NAV mode TMS behavior
- Lack of explicit cross-mode SA display integration
- TMS cursor control over waypoints/markpoints not highlighted as foundational

Approved TMS Redesigned Structure

CHAPTER 3: TMS -- Target Management Switch

3.1 Concept and general behaviour - └ Foundational TMS principles

3.2 TMS and Situational Awareness displays (HSD, HSI, DED) ← NEW SECTION - 3.2.1 HSD cursor control and waypoint management - 3.2.2 Integration with NAV master mode - 3.2.3 Cross-mode SA display interaction (A-A, A-G context)

3.3 TMS in Air-to-Air - 3.3.1 FCR CRM (RWS / ULS / VSR) - 3.3.2 SAM / DT-SAM - 3.3.3 TWS - 3.3.4 STT - 3.3.5 ACM (30x20, 10x60, BORE, SLEW) - 3.3.6 IFF interrogations (SCAN / LOS)

3.4 TMS in Air-to-Ground -- sensors and SPI - 3.4.1 FCR A-G (GM / GMT / SEA / AGR) - 3.4.2 TGP A-G - 3.4.3 HUD / HMCS (SPI, Snowplow, CZ, VIP/VRP cues) - 3.4.4 Markpoints and steerpoint management

- 3.5 TMS in A-G weapon employment
 - 3.5.1 Unguided bombs and rockets (CCIP / CCRP / DTOS)
 - 3.5.2 EO weapons -- Maverick (VIS / PRE / BORE)
 - 3.5.3 IAMs (JDAM / JSOW / WCMD / SPICE / others)
 - 3.5.4 LGBs and laser employment
 - 3.5.5 Anti-radiation (HARM POS / HAS / HAD)
 - 3.5.6 Naval weapons (Harpoon, others)

3.6 TMS -- Block / variant notes

Rationale for TMS Changes: - SA displays (HSD/HSI/DED) are foundational for NAV and cross-mode TMS understanding - Explicit NAV mode section addresses user query about DMS NAV/HSD control - Clear separation: SA displays → Radar → Ground sensors → Weapons - Pedagogical flow: General → Situational Awareness → Tactical targeting → Weapons

?

CURRENT DMS STRUCTURE (v0.1.2) — TO BE ANALYZED

CHAPTER 4: DMS -- Display Management Switch

4.1 Concept and SOI control

4.2 DMS in Air-to-Air

- 4.2.1 MFD format cycling and SWAP
- 4.2.2 HUD / HMCS SOI behaviour

4.3 DMS in Air-to-Ground

- 4.3.1 Sensor handoff and SOI choreography
- 4.3.2 Special cases (IAM, HARM, Harpoon)

4.4 DMS -- Block / variant notes

🔍 ANALYSIS FRAMEWORK: DMS vs TMS Redesign Parallels

Question 1: Do SA Displays Need Dedicated Section (like TMS)?

TMS Answer: YES - HSD/HSI/DED are fundamental to understanding TMS behavior - Warrant dedicated 3.2 section before A-A and A-G

DMS Assessment Required: - Does DMS control HSD/HSI/DED cycling? - Is SOI management between SA displays a primary DMS function? - Does NAV mode have unique DMS behavior for SA displays? - Current status: Implicit in 4.1 “Concept and SOI control” - **Question:** Should 4.2 be renamed to “DMS and Situational Awareness Displays (HSD, HSI, DED)”?

Question 2: Does NAV Master Mode Warrant Explicit Section?

TMS Answer: YES - New 3.2.2 “Integration with NAV master mode” - Highlights TMS cursor control over waypoints in navigation context

DMS Assessment Required: - Does DMS have unique behaviors in NAV mode vs A-A/G? - Does HSD format cycling (you asked about) belong in NAV section? - Current status: Embedded in 4.2 “DMS in Air-to-Air” and 4.3 “DMS in Air-to-Ground” -

Question: Should there be explicit 4.2.X “DMS in NAV Master Mode”?

Question 3: Do Special Cases Need Own Section or Belong in Weapons Chapters?

TMS Answer: Integrated in 3.5 (TMS in A-G weapon employment) - Maverick, IAMs, LGBs, HARM, Harpoon are subsections of 3.5 - Rationale: TMS targeting is weapon-specific

DMS Assessment Required: - Current structure has 4.3.2 “Special cases (IAM, HARM, Harpoon)” - Are these DMS-specific behaviors different from standard sensor handoff? - **Question:** Should they be: - Subsections of 4.3 (current) - Moved to weapon-specific chapters - Remain separate as cross-cutting concerns

Question 4: Is Cross-Mode Interaction Important for DMS (like TMS)?

TMS Answer: YES - New 3.2.3 “Cross-mode SA display interaction (A-A, A-G context)” - Explains how SA displays behave when switching between master modes

DMS Assessment Required: - Does DMS SOI behavior change based on master mode? - Is there important DMS choreography when switching modes? - **Question:** Should there be section on “DMS Cross-Mode Display Choreography”?

COMPARISON MATRIX

Aspect	TMS (Approved)	DMS (To Analyze)	Need Change?
Foundational Section	3.1 <input checked="" type="checkbox"/>	4.1 <input checked="" type="checkbox"/>	—
SA Display Section	3.2 (NEW) <input checked="" type="checkbox"/>	4.2?	?
NAV Mode Explicit	3.2.2 (NEW) <input checked="" type="checkbox"/>	4.2.X?	?
Air-to-Air	3.3 <input checked="" type="checkbox"/>	4.2	<input checked="" type="checkbox"/> (keep)

Aspect	TMS (Approved)	DMS (To Analyze)	Need Change?
Air-to-Ground	3.4 <input checked="" type="checkbox"/>	4.3	<input checked="" type="checkbox"/> (keep)
Weapons Employment	3.5 (NEW) <input checked="" type="checkbox"/>	4.3.2 "Special cases"	<input type="checkbox"/> ?
Block/Variant	3.6 <input checked="" type="checkbox"/>	4.4	<input checked="" type="checkbox"/> (keep)

CRITICAL DECISION POINTS FOR DMS

You must assess:

1. Is DMS fundamentally about SA display cycling?
 - If YES → Needs section like 3.2
 - If NO → Keep current structure
 2. Does NAV mode have unique DMS behavior?
 - If YES (per your earlier question about DMS NAV/HSD) → Needs explicit subsection
 - If NO → Current 4.2/4.3 split is sufficient
 3. Are IAM/HARM/Harpoon special cases for DMS?
 - If YES → Keep in 4.3.2
 - If NO → Move to weapon-specific chapters
 4. How important is DMS cross-mode choreography?
 - If critical → Add section like 3.2.3
 - If secondary → Keep implicit in 4.1
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NEXT STEPS

User to provide assessment:

DMS REDESIGN ASSESSMENT:

1. SA Displays (HSD/HSI/DED) dedicated section?
YES / NO / MAYBE (explain):
2. NAV Master Mode explicit subsection?
YES / NO / MAYBE (explain):
3. Special cases (IAM/HARM/Harpoon)?
STAY IN 4.3.2 / MOVE TO WEAPONS / OTHER:
4. Cross-mode choreography section?
YES / NO / MAYBE (explain):

5. Any other structural issues with current DMS?
(List here):

LOCKED TMS STRUCTURE (Reference)

Do not change without re-approval:

- 3.1 Concept and general behaviour
- 3.2 TMS and Situational Awareness displays (HSD, HSI, DED)
 - 3.2.1 HSD cursor control and waypoint management
 - 3.2.2 Integration with NAV master mode
 - 3.2.3 Cross-mode SA display interaction (A-A, A-G context)
- 3.3 TMS in Air-to-Air (6 subsections)
- 3.4 TMS in Air-to-Ground (4 subsections)
- 3.5 TMS in A-G weapon employment (6 subsections)
- 3.6 TMS -- Block / variant notes

Total sections/subsections: 3 main sections + 1 new section + 16 subsections

VERSIONING STRATEGY

When Both TMS and DMS Decisions Complete: - Current: guide-v0.1.2+20260105.tex - Target: guide-v0.1.3+20260105.tex (PATCH increment) - Reason: Content modifications within Chapter 3 (TMS) + Chapter 4 (DMS) - Do NOT bump to 0.2.0 (that's for complete Chapter 2 scaffolding)

Files to Update at v0.1.3: 1. LaTeX source (chapters 3 & 4 restructured) 2. PROJECT-TRACKING.md (document changes) 3. Archive old v0.1.2 for rollback

Status: AWAITING USER DMS ASSESSMENT

Decision Point: 05 January 2026, ~14:10 PM -03

Next Action: Implement approved changes together (TMS + DMS)