COMPANION GUIDE TO ONLINE TRAINING

Use alongside the online lessons at fortunefavorsthepreparated.com/int-02-rtsa-landing/

INT-02: RADIO TRAFFIC SITUATIONAL AWARENESS STUDENT COMPANION GUIDE

The Operator's Field Reference

Baseline Methodology, Network Architecture, Pattern Analysis, and Reporting
SSI Scoring · Correlation Matrix · Incident Trajectory Model · RTSA Assessment Report

Edition v1.0 · 2026

Semper Paratus, Semper Gumby

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INT-02: RADIO TRAFFIC SITUATIONAL AWARENESS — STUDENT COMPANION GUIDE

Companion Guide to Online Training

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Published by Fortune Favors the Prepared
Thomasville, Pennsylvania
fortunefavorsthepreparedcom
Edition v1.0 | 2026

> This companion guide is designed to be used alongside the INT-02 Radio Traffic Situational Awareness online training series at fortunefavorsthepreparedcom/int-02-rtsa-landing/. The online lessons are the instruction. This guide contains format reference tables, SSI scoring tools, monitoring log worksheets, and the RTSA Assessment Report template only — it does not contain the instructional content. It cannot be used as a standalone document.

ONLINE TRAINING ACCESS

The eight online lessons are available online. Support the development and availability of these courses by subscribing to my Patreon:

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INSTRUCTOR-LED GROUP TRAINING

Group sessions and facilitated training are available. Contact:
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How to Use This Companion Guide

> **THIS GUIDE IS A COMPANION TO THE ONLINE TRAINING**
> This companion guide is designed to be used alongside the INT-02 Radio Traffic Situational Awareness online training series — the online lessons are the instruction. This guide contains reference tables, scoring tools, and blank worksheets only. It is not a standalone document.

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Online curriculum: fortunefavorstheprepared.com/int-02-rtsa-landing/

What this guide contains

For each of the eight online lessons: a condensed reference summary covering only the key terms, metrics, and scoring standards — not the instruction. The baseline profiling matrix, SSI scoring table, correlation matrix, and incident trajectory model are included as working tools. The RTSA Assessment Report template is in Part III. The instruction is delivered online — this guide is what you use in the field.

Required workflow — online lessons BEFORE using this guide

> **ORDER MATTERS**
> Do not open any section of this guide until the corresponding online lesson has been completed. The condensed summaries here are reference material, not instruction. The sequence below is required, not suggested.

- Step 1 — Support the development and availability of these courses by subscribing to my Patreon: patreon.com/fortunefavorstheprepared
- Step 2 — Access the online lessons at fortunefavorstheprepared.com/int-02-rtsa-landing/
- Step 3 — Complete all eight lessons including knowledge checks
- Step 4 — Use this guide in the field as a monitoring reference and report template

> **THIS GUIDE IS NOT STANDALONE**
> The instruction for each lesson is delivered through the online training series. This guide contains condensed reference tables and blank worksheets only. If you have not completed the online lessons, this guide will not teach you the material — it will give you tables whose meaning you do not yet understand.

Guide Map — What to Reference When

When you need…	Turn to…
The legal and ethical foundations of monitoring	Part I, Chapter 1
The six net types and their traffic signatures	Part I, Chapter 2
The five baseline metrics and profiling matrix	Part I, Chapter 3
The Structural Stability Index (SSI) scoring table	Part I, Chapter 4
The five traffic pattern metrics and density curve	Part I, Chapter 5
The six content categories and distribution tracking	Part I, Chapter 6
The correlation matrix and geographic gradient tool	Part I, Chapter 7
Escalation and stabilization indicators	Part I, Chapter 8
The incident trajectory model (5 phases)	Part I, Chapter 8
The 8-section RTSA Assessment Report structure	Part II, Chapter 9
A blank monitoring log to fill in	Part III — Monitoring Log Worksheet
A blank SSI scoring sheet	Part III — SSI Scoring Worksheet
A blank correlation matrix	Part III — Correlation Matrix Worksheet
A blank RTSA Assessment Report	Part III — Assessment Report Worksheet
Doctrinal sources behind the method	Part IV — Doctrinal Sources

PART I — REFERENCE TABLES

Chapter 1: Legal, Ethical and Conceptual Foundations

RTSA is the systematic observation of open, lawful radio communications to assess the operational condition of a network from traffic structure, volume, and pattern — not message content. Understanding the legal and ethical limits is not preliminary to the discipline. It is the foundation the entire method rests on.

What RTSA Is — and Is Not

RTSA IS	RTSA IS NOT
Systematic monitoring of open, legally accessible radio traffic	SIGINT, COMINT, or signals intelligence of any kind
Pattern and structure analysis independent of message content	Content interception, decryption, or exploitation
Network health assessment from observable traffic metrics	Surveillance or identity tracking of individual operators
A lawful preparedness and situational awareness tool	Live tactical intelligence relay to third parties

LEGAL BOUNDARY

18 U.S.C. § 2511 exempts monitoring of unencrypted transmissions on frequencies readily accessible to the general public. Three absolute prohibitions apply even within lawful monitoring: no disclosure of intercepted content to third parties, no personal benefit from intercepts, no decryption of encrypted communications. Public rebroadcast of monitored content is specifically prohibited regardless of the legality of the original monitoring.

The Four Hard Limits

Limit	What It Means in Practice
No identification attempts	Do not link call signs to named individuals or build operator profiles
No live tactical dissemination	RTSA assessments are for planning, not real-time tactical relay
No speculative reporting	Document observed patterns only — not inferences about meaning or intent
No net interference	Monitoring is passive. Never transmit on a frequency you are monitoring

PERSONAL CODE OF CONDUCT

A code of conduct is a set of pre-committed decisions made before you sit down with a receiver. Write five specific commitments in the first person and keep them with your logging materials. Review them at the start of every monitoring session, not just once during training.

Chapter 2: Network Architecture

Before you can read traffic patterns, you need to understand the network structures that produce them. Each net type has a characteristic traffic signature, a normal operational rhythm, and a distinct degradation pattern under stress.

The Six Net Types

Net Type	Control Structure	Traffic Signature and Stress Pattern
Directed Net	Centralized NCS	Clean sequential traffic with acknowledged exchanges. Degrades visibly: acknowledgment delays, protocol breaks, then NCS overload.
Open Net	No enforced NCS	Variable timing, unpredictable pattern. Difficult to baseline. Under stress: indistinguishable from unmanaged chaos.
Tactical Net	Defined scope and roles	Clearest signature — operational scope constrains what should be on air. Easiest to compare against baseline.
Resource Net	Coordinator-managed	Traffic clusters around requests, assignments, and confirmations. Stress indicator: rising unfulfilled request rate.
Check-in Net	Sequential / interval	Predictable intervals, brief acknowledgments, low density. Station absences are the primary analytical indicator.
Regional Coordination Net	Multi-net aggregation	Reflects aggregate condition of all local nets feeding into it. Escalation here signals local capacity exhausted.

Net Control Station Signatures

NCS State	Observable Signature
Strong NCS	Sequential recognition, prompt acknowledgments, consistent cadence under rising volume, protocol enforcement, controlled queue
Stressed NCS	Acknowledgment delays becoming measurable, slower queue processing, selective protocol enforcement
Fragmenting NCS	Missed acknowledgments, unresolved protocol breaks, competing control attempts from other stations
Absent / Contested	Multiple stations attempting NCS functions simultaneously, contradictory instructions, split compliance from field stations

THE FOUR STRESS POINTS

Networks fail at predictable points: (1) Operator overload — NCS acknowledgment delays leading to protocol breakdown. (2) Infrastructure loss — relay chain emergence where

direct communication previously worked. (3) Cross-band congestion — interference between adjacent nets, frequency changes, partial transmissions. (4) Command fragmentation — competing NCS authority, contradictory instructions, split compliance.

Chapter 3: Baseline Methodology

Every RTSA assessment is a comparison: what is the traffic doing now versus what it does under normal conditions. Without a documented baseline there is no comparison, and without a comparison there is no assessment — only impressions. Baseline collection is the first required step before any monitoring session produces a valid assessment.

The Five Baseline Metrics

	Metric	What It Measures and Why It Matters
1	**Transmissions per minute (TPM)**	Primary volume indicator. Establish normal TPM by net type and time of day before flagging elevation as anomalous.
2	**Average message duration**	Information density and tempo indicator. Sudden shortening signals high-tempo operations or net discipline deterioration.
3	**Unique stations per interval**	Participation tracking. Rising count = incident drawing more participants. Falling count = stations dropping off.
4	**Relay frequency**	Direct infrastructure health indicator. Rising relay dependency where direct comms previously worked = degradation signal.
5	**Priority message occurrence**	Incident escalation indicator. Sustained elevation = net's own assessment of urgency through operator behavior.

Baseline Profiling Matrix

Populate across a minimum of three separate monitoring sessions under non-incident conditions. Do not mix weekday, weekend, and weather-event sessions in the same matrix — maintain category-specific baselines to prevent false positives.

Metric	Session 1	Session 2	Session 3	Normal Range
Transmissions per minute (TPM)				
Average message duration (sec)				
Unique stations per interval				
Relay frequency (%)				
Priority message rate (%)				

MINIMUM SESSIONS REQUIRED

Three sessions is the documented minimum to establish a meaningful normal range. Two sessions produce only two data points with no way to distinguish range from simple variance. More sessions improve the baseline. When you cannot compare like-to-like session types, flag the comparison limitation explicitly in your assessment and treat findings as preliminary.

Chapter 4: Structural Stability Index (SSI)

The SSI converts observational data into a single documentable score enabling consistent reporting and trend comparison across sessions. Score each of the four components on a 1–5 scale where 5 represents optimal discipline and 1 represents severe degradation. Average the four component scores for the session SSI.

Component	5 — Optimal	3 — Moderate	1 — Severe Degradation
NCS Presence	Continuous, authoritative, no gaps	Intermittent but recovers	Absent or contested
Compliance Rate	All stations follow protocol	Occasional protocol breaks	Frequent breaks, no enforcement
Acknowledgment Integrity	All transmissions acknowledged promptly	Occasional missed acknowledgments	Frequent missed or delayed
Message Clarity	Clear, complete, unambiguous	Some repetitions needed	Frequent repeats, garbled, truncated

SSI Score	Assessment and Action
4.0 – 5.0	Healthy net operating within normal parameters. No action required beyond routine monitoring.
2.5 – 3.9	Moderate stress. Warrants increased monitoring attention and interval reduction.
Below 2.5	Significant structural degradation. Reportable as active concern in RTSA Assessment Report.

SSI IS MOST USEFUL AS A TREND, NOT A SNAPSHOT

A net that drops from a baseline of 4.5 to 2.2 during an activation is showing genuine incident stress. A net that consistently scores 2.9 regardless of conditions may simply be poorly disciplined and the score represents no meaningful change from its own normal. Always compare current SSI against the documented baseline for that specific net.

The Four-Stage Degradation Sequence

Stage	Observable Signal
Stage 1	Acknowledgment delays — NCS still functioning but slightly slower. Often missed because individual delays are small.
Stage 2	Protocol breaks by frustrated stations — isolated, may self-correct if NCS has authority and energy to enforce.
Stage 3	Enforcement failure — NCS stops correcting breaks because correcting each one consumes resources needed for the traffic queue.
Stage 4	Chaos or reset — unmanaged traffic, or a deliberate net reset by the NCS. A managed reset is a positive indicator of net self-awareness.

Chapter 5: Traffic Pattern Analysis

Traffic pattern analysis is the core technical discipline of RTSA. It extracts meaningful assessments from quantitative traffic data without interpreting message content. Pattern analysis requires only that you can count transmissions, measure durations, note acknowledgment occurrence, and observe relay intermediaries.

	Metric	Analytical Interpretation
1	**Transmission density curve**	TPM plotted over time. Shape reveals trajectory: gradual rise = building operational load; vertical spike = acute triggering event; plateau = sustained incident conditions; decline = stabilization.
2	**Message repetition frequency**	Systematic repetition across multiple messages and stations indicates channel congestion, infrastructure degradation, or processing breakdown at the receiving end.
3	**Silence intervals**	Unexpected silence during active operations is a flag requiring cross-reference with adjacent nets. Compare against expected behavior before treating as anomalous.
4	**Relay chain depth**	Average relay hops per message. Normal depth is 0–1 on well-designed nets. Rising depth indicates infrastructure degradation before failure becomes obvious.
5	**Priority compression**	Rising percentage of priority-declared traffic tracks escalation. At 40%+ the distinction between priority and routine has lost operational meaning — peak/saturated phase indicator.

PATTERN BEATS CONTENT

The five metrics above can be measured on any legally monitored net regardless of whether you can understand the language, decode the terminology, or hear the content clearly. Content adds context and can resolve ambiguity, but it is secondary. If you need content to form a judgment, you have not yet internalized the method.

Chapter 6: Content Categorization

When message content is audible and comprehensible, RTSA uses it — as categorization only, not interpretation. Track the distribution of message categories across intervals and note how the distribution shifts. The shift is the finding. What individual messages mean for specific operations is not your analysis.

	Category	What It Covers and Key Escalation Signal
C	**Command and Coordination**	Directions, assignments, decisions from authority to field elements. Fragmented C&C or falling C&C share signals authority breakdown.
L	**Logistics and Supply**	Resource requests, asset assignments, supply status, movement. Rising unfulfilled request rate = resource bottleneck.
P	**Personnel Accountability**	Status checks, welfare reports, missing or injured personnel. Rising volume = personnel tracking under stress or losses occurring.
I	**Infrastructure Status**	Facility, road, utility, and communications condition reports. Rising volume = expanding operational constraints.
R	**Requests for Assistance**	Calls for help, resource requests, mutual aid requests. High volume = demand exceeding local capacity.
X	**Information Relay**	Passing existing content without generating new material. High volume = infrastructure limitations forcing indirect paths.

NARRATIVE BIAS WARNING

The moment your assessment says "this probably means" or "they must be" you have left categorization and entered speculation. Every finding in an RTSA report must be expressible as: category X was Y% of traffic at interval Z, or distribution shifted from A% to B% between intervals 1 and 2. If you cannot express it that way, you do not have sufficient data to make the finding.

Chapter 7: Cross-Net Correlation

Simultaneous indicators on multiple independent nets are analytically significant in ways that single-net observations cannot produce. Monitor a minimum of three nets — local, regional, and at least one adjacent or functional net — to enable geographic gradient analysis and propagation tracking.

Correlation Matrix

Populate in real time. The matrix enables horizontal comparison across nets within the same interval and vertical comparison within a net across intervals.

Indicator / Interval	Net A (Local)	Net B (Regional)	Net C (Adjacent)
TPM			
SSI Score			
Relay Depth			
Priority % of Traffic			
Dominant Category			
Notable Events			

Geographic Gradient Analysis

Pattern	Geographic Interpretation
Local net stressed, regional net normal	Problem localized to that net's area, not yet at regional scale
Regional net stressed, local nets normal	Coordination-level failure or multiple simultaneous local incidents exhausting regional capacity
Sharp relay depth difference between adjacent nets	Infrastructure boundary: high-relay side has lost infrastructure the adjacent area still has
Stress indicators appear local, then regional, then adjacent (time-lagged)	Condition is expanding geographically — propagation tracking indicates growth rate

FALSE CORRELATION CHECK

Before treating simultaneous indicator alignment as independent corroboration, verify three conditions: (1) Shared infrastructure — if two nets share a repeater or NCS organization, simultaneous behavior may reflect one technical cause, not two independent data points. (2) Scheduled events — cross-reference against published net activation schedules. (3) Daily cycle artifacts — nets with similar operating schedules may show correlated patterns from shared rhythms, not shared conditions.

Chapter 8: Temporal Trend Analysis

Temporal trend analysis assigns the monitored system to one of five trajectory phases based on the direction and consistency of indicators across your monitoring record. The assigned phase must always be accompanied by the specific data that supports it.

Escalation Indicators

Each of the following, sustained across three or more consecutive intervals, constitutes evidence of escalation rather than transient variation:

- Rising transmission density curve — TPM increasing without return to baseline
- Increasing relay depth — average relay hops rising across intervals
- Priority compression advancing — percentage of priority-declared traffic continues to rise
- SSI decline sustained — Structural Stability Index falling across multiple intervals without correction
- Category shift toward requests — Requests for Assistance and Logistics taking increasing share from Command and Coordination
- Cross-net propagation — stress indicators appearing on nets beyond the initial one

Stabilization Indicators

- Transmission density plateau or decline — TPM has stopped rising or is measurably declining from peak
- Relay depth holding or decreasing — relay chains are not lengthening further
- Priority compression reversing — percentage of priority traffic is declining
- SSI recovery — Structural Stability Index rising across successive intervals
- Category distribution normalizing — Command and Coordination recovering dominant share

Incident Trajectory Model

Phase	Traffic Signature	Key Indicators
Emergent	Rising from baseline; pattern change beginning	TPM increasing, first priority declarations, relay depth beginning to rise
Escalating	Sustained upward trend across multiple indicators	TPM sustained high, SSI declining, priority compression advancing, cross-net propagation
Saturated	Peak intensity; net at or near capacity	Maximum relay depth, priority compression 40%+, SSI at lowest, categories skewed toward requests
Stabilizing	Indicators plateauing or beginning to reverse	TPM plateau or early decline, SSI recovery beginning, priority compression reversing, net reset events
Recovering	Return toward baseline across multiple indicators	TPM declining toward normal, relay depth decreasing, priority compression low, categories normalizing

PART II — RTSA ASSESSMENT REPORT

Chapter 9: RTSA Assessment Report — Eight Required Sections

The RTSA Assessment Report has eight required sections. Every section must be present. Sections that contain no findings are noted as such with a brief explanation — they are not omitted. A trajectory phase assignment without cited supporting indicators is an opinion, not an RTSA assessment.

Sec	Title	Required Content
1	Monitoring Parameters	Nets monitored, frequencies, time period, equipment. The basis for evaluating whether the assessment is comprehensive or limited.
2	Baseline Reference	Documented normal range for each monitored net and number of sessions the baseline represents. Flag if absent: all findings from that net are preliminary.
3	Structural Stability Index	SSI component scores at each measurement interval, not only the aggregate. Must show individual components.
4	Traffic Pattern Summary	Transmission density curve data, relay depth trend, priority compression trend, significant silence intervals.
5	Content Category Distribution	Category percentages at each interval and notable shifts. If content was not analyzed, state explicitly.
6	Cross-Net Correlation Findings	Aligned vs. divergent indicators for each net pair, infrastructure independence check results for each correlation finding.
7	Incident Trajectory Assessment	Assigned phase from trajectory model with specific cited indicators and direction of travel. Include assessment timestamp.
8	Limitations and Caveats	What this assessment cannot tell you. Missing baselines, unmonitored nets, ambiguous indicators. Not a formality — this section makes the rest credible.

ETHICAL COMPLIANCE STATEMENT

Every RTSA Assessment Report must include a statement confirming: monitoring was conducted lawfully on publicly accessible frequencies; no encrypted communications were intercepted or decryption attempted; no intercepted content was disclosed to third parties; no identification attempts were made linking call signs to named individuals; no interference with active nets occurred. This statement is not bureaucratic. It is the record that the assessment was produced through a lawful and ethical process.

PART III — BLANK WORKSHEETS

Complete each worksheet during or immediately after a monitoring session. Use a separate copy for each session. All fields must have an entry — write “N/A” rather than leaving any line blank. Date and net identification are required on every worksheet.

Monitoring Log Worksheet

Net / Frequency: _____	**Date:** _____
Session Type (weekday / weekend / weather): _____	**Time Start – End:** _____
Equipment Used: _____	**Baseline Available? Y / N** _____

Interval	TPM	Avg Duration	Unique Stn	Relay Depth	Priority %	Notable Events / Dominant Category
0–15 min						
15–30 min						
30–45 min						
45–60 min						
60–75 min						
75–90 min						

BASELINE DEVIATION NOTES

Record any metric that falls outside your documented normal range for this net type. State the metric, the normal range, and the observed value. Do not interpret in the log — interpretation goes in the Assessment Report.

SSI Scoring Worksheet

Net / Frequency: _____	**Date / Session:** _____

SSI Component	0–15 min	15–30 min	30–45 min	45–60 min
NCS Presence (1–5)				
Compliance Rate (1–5)				
Acknowledgment Integrity (1–5)				
Message Clarity (1–5)				
SESSION SSI AVERAGE				

SSI SCORING GUIDE

5 = Optimal discipline. 4 = Normal with minor variation. 3 = Moderate stress, notable breaks. 2 = Significant degradation, enforcement failing. 1 = Severe — net at or near collapse. Average the four component scores. SSI below 2.5 is reportable as an active concern.

Correlation Matrix Worksheet

Net A (Local) / Frequency: _____	**Net B (Regional) / Frequency:** _____
Net C (Adjacent) / Frequency: _____	**Date / Session Period:** _____

Indicator / Interval	Net A (Local)	Net B (Regional)	Net C (Adjacent)
TPM (0–30 min)			
SSI Score (0–30 min)			
Relay Depth (0–30 min)			
Priority % (0–30 min)			
Dominant Category (0–30 min)			
TPM (30–60 min)			
SSI Score (30–60 min)			
Relay Depth (30–60 min)			
Priority % (30–60 min)			
Dominant Category (30–60 min)			
Notable Events			

Infrastructure Independence Check:

Do Nets A, B, and C share a repeater? Y / N Share an NCS organization? Y / N
Scheduled event active? Y / N

Correlation finding (if aligned indicators present):

_____

RTSA Assessment Report Worksheet

Analyst: _____	**Date / Time of Assessment:** _____

Sec	Title	Entry
Section 1	**Monitoring Parameters**	Nets monitored, frequencies, time period covered, equipment used:
Section 2	**Baseline Reference**	Baseline available? Y / N Sessions in baseline: ___ Preliminary findings flag: Y / N
Section 3	**Structural Stability Index**	Net A SSI: ___ Net B SSI: ___ Net C SSI: ___ Trend (rising / stable / falling):
Section 4	**Traffic Pattern Summary**	Peak TPM observed: ___ Max relay depth: ___ Peak priority %: ___ Silence events noted:
Section 5	**Content Category Distribution**	Dominant category: ___ Significant shift observed? Y / N From: ___ % To: ___ % between intervals ___ and ___
Section 6	**Cross-Net Correlation**	Correlated indicators (if any): Infrastructure independence confirmed? Y / N
Section 7	**Incident Trajectory Assessment**	Assigned phase: Emergent / Escalating / Saturated / Stabilizing / Recovering Direction of travel:
Section 8	**Limitations and Caveats**	Unmonitored nets, absent baselines, ambiguous indicators, comparison limitations:

ETHICAL COMPLIANCE STATEMENT — Required on every report

- Monitoring conducted lawfully on publicly accessible frequencies
- No encrypted communications intercepted; no decryption attempted
- No intercepted content disclosed to third parties
- No identification attempts linking call signs to named individuals
- No interference with active nets during this session

PART IV — DOCTRINAL SOURCES

Chapter 10: Doctrinal Sources

Source	Publisher	Relevance
FM 2-0: Intelligence	Department of the Army, 2014	Army intelligence doctrine including the collection and analysis framework that contextualizes traffic analysis as a discipline.
FM 2-22.3: HUMINT Collection Operations	Department of the Army, 2006	Human intelligence collection doctrine and observer reporting chain referenced throughout the INT-series curriculum.
FM 34-2-1: Reconnaissance and Surveillance	Department of the Army	Surveillance and pattern-of-life doctrine that underpins the systematic observation methodology used in RTSA.
MCRP 2-10A.1: Signals Intelligence	United States Marine Corps	SIGINT doctrine providing professional-grade context for distinguishing RTSA from classified signals collection.
AR 530-1: Operations Security (OPSEC)	Department of the Army	OPSEC doctrine relevant to what is transmitted, how, and to whom — applicable to both what you monitor and how you report.

Radio traffic reveals system health independently of message content. A net that is degrading, a net that is saturated, a net that has lost its infrastructure — all of this is readable from structure and pattern alone, long before any official report describes the situation publicly. The analyst who has a documented baseline, a disciplined method, and a clean report format is the analyst whose assessment reaches the decision-maker in a usable form.

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