ET A SCHOOL RADAR DISPLAY – AN/SPA-25G RADAR INDICATOR GROUP PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

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How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

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Questions

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1. Why must video and data be stored and altered in the system?

A. Graphics elements need to be mixed with radar video before being displayed.

B. To allow faster transmission.

C. To compress data for storage.

D. To convert analog to digital for display.

2. The LVPS receives a 90kHz signal from which component?

A. 1A2A7A10 Radar Memory and TV Timing

B. A1 (T2 Switching Supply)

C. 1A3A4J17

D. 1A3PS2 (LVPS)

3. Which assembly is used to monitor the ship's power?

A. Voltmeter Assembly

B. VME Bus Interface

C. PROM

D. System Clocks

4. What signal is used to determine the T0SET (NOT) and CONVBUSY (NOT) outputs during a RADAR Test BIT?

A. ACP Clock or 488Hz

B. Main trigger

C. 64 input data bits

D. Radar Sync Clock

5. What are the functions of the TM from the RADDS input?

A. Initiates PPI Sweep

B. Establishes Range Zero Time

C. Reference for exact Range and Bearing data outputs from the Radar Indicator

D. All of the above

6. 1A2A9S1 is a _____ position switch, but only _____ of those are active.

A. 22; 20

B. 20; 18

C. 24; 22

D. 18; 16

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7. Which card contains the memory where RDV writes received video data?

A. 1A2A7A12 Coordinate Converter

B. 1A2A7A9 Display Processor

C. 1A2A7A10 Radar Memory and TV Timing Card

D. 1A2A7A13 Radar Video and Timing Card

8. What generated by a crystal-controlled oscillator and binary counters?

A. Memory

B. System Clocks

C. System Bus

D. Timers

9. Intermediate Extender Section is located at which unit?

A. Unit 1

B. Unit 2

C. Unit 3

D. Unit 4

10. Which of the following is NOT a major functional area of the AN/SPA-25G?

A. Deflection Amplifier and CRT

B. Radar Triggers/Azimuth Input

C. Video Channel

D. Power Supply

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Answers

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1. A
2. A
3. A
4. A
5. A
6. A
7. C
8. B
9. B
10. D

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Explanations

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1. Why must video and data be stored and altered in the system?

A. Graphics elements need to be mixed with radar video before being displayed.

B. To allow faster transmission.

C. To compress data for storage.

D. To convert analog to digital for display.

The video you see on the radar display is the base image, and meaningful interpretation comes from adding graphics symbols, tracks, and range information on top of it. To produce a single, coherent display, the system stores the radar video and the associated data so the graphic elements can be synchronized and drawn with the correct timing. By keeping this information in memory, the graphics generator can alter or update symbols, positions, and attributes and then composite them with the radar video before it's shown to the operator. This overlay is what makes targets, tracks, range rings, headings, and other cues visible in one image. If you're wondering about the other options, they aren't why storage and alteration are needed here. The goal isn't faster transmission, data compression for storage, or converting between analog and digital for display; it's the ability to mix and present graphics with the radar video as a single, usable display.

2. The LVPS receives a 90kHz signal from which component?

A. 1A2A7A10 Radar Memory and TV Timing

B. A1 (T2 Switching Supply)

C. 1A3A4J17

D. 1A3PS2 (LVPS)

The 90 kHz timing signal is a clock used to synchronize the display's video memory refresh and raster timing. In the SPA-25G, the Radar Memory and TV Timing unit provides this timing reference, coordinating how the display updates and how the CRT scans. The LVPS is powered by the system and uses signals from the timing source to stay in sync with the display, but the 90 kHz clock itself comes from the Radar Memory and TV Timing module. The other components are involved with power conversion or are not the source of the display timing clock.

3. Which assembly is used to monitor the ship's power?

A. Voltmeter Assembly

B. VME Bus Interface

C. PROM

D. System Clocks

Measuring the supply voltage is how you track the health of the power that runs the radar indicator group. The voltmeter assembly is designed to monitor the ship's power by providing voltage readings of the incoming supply and signaling if the level is outside acceptable limits. This is crucial for catching undervoltage or overvoltage conditions that could affect performance or damage equipment. The other assemblies have different roles: the VME bus interface handles data communication between boards, not power monitoring; PROM stores firmware or data; system clocks provide timing references for the electronics. So the voltmeter assembly is the component used to monitor the ship's power.

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4. What signal is used to determine the T0SET (NOT) and CONVBUSY (NOT) outputs during a RADAR Test BIT?

A. ACP Clock or 488Hz

B. Main trigger

C. 64 input data bits

D. Radar Sync Clock

In a RADAR Test BIT, the timing for the built-in test sequence is driven by the ACP Clock, with the 488-Hz rate serving as the test timing base. This timing source defines when time zero is set (T0SET) and when the conversion cycle is considered busy (CONVBUSY), keeping the BIT sequence deterministic and synchronized to a stable reference. The other signals don't establish those timing outputs: the main trigger may initiate a test but doesn't supply the timing for T0SET/CONVBUSY; the 64 input data bits are the data being processed, not the clock that drives the timing; and the Radar Sync Clock is used for aligning radar operation, not for controlling the internal BIT timing signals.

5. What are the functions of the TM from the RADDS input?

A. Initiates PPI Sweep

B. Establishes Range Zero Time

C. Reference for exact Range and Bearing data outputs from the Radar Indicator

D. All of the above

The function of the TM from the RADDS input is to trigger the PPI sweep. When the TM pulse arrives, it starts the display's Plan Position Indicator sweep, aligning the refresh with the radar data being shown. Range zero time and the precise range/bearing data outputs are handled by other signals and calibrations in the system, not by this trigger. So the TM's primary role is to initiate the PPI sweep.

6. 1A2A9S1 is a _____ position switch, but only _____ of those are active.

A. 22; 20

B. 20; 18

C. 24; 22

D. 18; 16

A position switch has a fixed number of detents (positions), but not all of them are used to affect the circuit. For this switch, the specification shows twenty-two total detents, yet only twenty of those detents are wired to active circuits in normal operation. The extra two detents are non-functional during regular use and are kept for alignment or safety reasons. So the correct completion is: twenty-two total positions, twenty active.

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7. Which card contains the memory where RDV writes received video data?

A. 1A2A7A12 Coordinate Converter

B. 1A2A7A9 Display Processor

C. 1A2A7A10 Radar Memory and TV Timing Card

D. 1A2A7A13 Radar Video and Timing Card

The place where RDV stores the incoming video data is on the Radar Memory and TV Timing Card. This card provides the memory (a frame buffer) used to hold the received video before it is drawn on the display, and it also supplies the timing signals needed to synchronize the video with the display. The RDV writes the video data into this memory so the display processor can fetch and render it at the correct rate. Other cards handle related tasks—such as converting coordinates or performing display processing—but they do not provide the dedicated memory for RDV video data.

8. What generated by a crystal-controlled oscillator and binary counters?

A. Memory

B. System Clocks

C. System Bus

D. Timers

System clocks are generated by a crystal-controlled oscillator and binary counters. The crystal provides a stable, precise frequency reference. The binary counters divide that high-frequency signal down to the slower clock rates needed to synchronize the radar indicator's digital circuitry. This clocking signals drive the processor timing, data paths, memory access, and display refresh, keeping all parts in step. Memory and the system bus are storage and communication pathways, not the timing source created by the oscillator and counters. Timers use the system clock, but they aren't what the crystal and counters generate by themselves—the clocks they rely on are the system clocks.

9. Intermediate Extender Section is located at which unit?

A. Unit 1

B. Unit 2

C. Unit 3

D. Unit 4

In this radar indicator group, the Intermediate Extender Section is placed in Unit 2. The extender stages act as buffers that keep the display signal strong and clean as it moves from one module to the next. Placing the intermediate extender in the middle unit helps balance the signal path, minimizing excessive cable lengths and preserving proper impedance and timing throughout the chain. Because of this standard arrangement, Unit 2 is the correct location for the Intermediate Extender Section.

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10. Which of the following is NOT a major functional area of the AN/SPA-25G?

A. Deflection Amplifier and CRT

B. Radar Triggers/Azimuth Input

C. Video Channel

D. Power Supply

The unit's main functional areas are the parts that directly handle radar video and its display: the Deflection Amplifier and CRT, which drive and position the electron beam to form the image on screen; the Radar Triggers/Azimuth Input, which provide synchronization and horizontal placement information from the radar's azimuth; and the Video Channel, which conditions and passes the radar video signal to the display. These blocks work together to convert radar returns into a usable on-screen image. The power supply, while essential for operation, serves as the source of power for all modules rather than processing or displaying radar information. It supports the system but is not a functional block involved in the radar video path or display generation.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://radardispanspa25gindicatorgrp.examzify.com

We wish you the very best on your exam journey. You've got this!

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