

CTS Exam Content Outline - Expanded Study

*This is an interactive PDF**

Your Certification Preparation Strategy

Thank you for your interest in InfoComm's ANSI accredited CTS certification examination. Each question in the exam relates to a specific job task. The list of job tasks covered on the CTS exam serves as the structure for this resource. If you have any questions about terms, consult the [InfoComm Academy Glossary](#).

Are You New to the AV Industry?

To check to see if you know your AV essentials, [take this pre-test](#).

If you have been in the AV industry for less than six months, InfoComm Academy strongly recommends that you build your knowledge of all segments of the industry by enrolling in **GEN106 Essentials of AV Technology Online**, **GEN 102 Essentials of the AV Industry Online** (in Spanish and German), or **GEN111 Essentials of the AV Industry** classroom course if offered in your area. Once you have mastered this content, you can begin to determine what else you need to study.

How to Use This Document

1. Print the [Certification Preparation Worksheet](#) (page 10)-an alphabetical list of all recommended study titles in this expanded study document. Prioritize and track study resources as you go through the content outline. (You can use the document digitally to link to the suggested resources.)
2. Look at the exam content online on the next page. Each task shows the percentage of questions appearing on the exam in that area.
3. Self-evaluate your ability to accomplish each task.
 - If you are certain that you have mastery of the task, move to the next task in the domain.
 - Not sure what the task is about or whether you need review? Click on the task for additional recommendations. Tracking the recommended study resources on your worksheet will give you an idea of the content areas you need to review.

All recommended study titles mentioned in this document are listed alphabetically in the Certification Preparation Worksheet.

*links in this PDF will take you to other pages of the document or web pages at www.infocomm.org

CTS Exam Content by Percentage of Questions

Domain A: Creating AV Solutions	60%
Task 1: Conduct site survey	5%
Task 2: Gather customer information	6%
Task 3: Evaluate site environment (acoustics, lighting, seating, finishing, etc.)	6%
Task 4: Recommend changes to site environment (acoustics, lighting, seating, finishing, etc.)	5%
Task 5: Develop a functional AV scope	6%
Task 6: Design AV solutions	10%
Task 7: Sell AV solutions	5%
Task 8: Conduct vendor selection process	4%
Task 9: Market AV technologies	4%
Task 10: Provide AV solutions	9%
Domain B: Operating AV Solutions	15%
Task 1: Operate AV solutions	6%
Task 2: Conduct maintenance activities	4%
Task 3: Manage AV solutions/operations	5%
Domain C: Conducting AV Management Activities	17%
Task 1: Project manage AV projects	5%
Task 2: Evaluate AV personnel competencies	3%
Task 3: Conduct estimating activities	4%
Task 4: Conduct purchasing activities	2%
Task 5: Conduct job costing activities	3%
Domain D: Servicing AV Solutions	8%
Task 1: Troubleshoot AV solutions	4%
Task 2: Repair AV solutions	4%
Total	100%

Expanded Review of the Tasks Identified in the Outline Above

Domain A: Creating AV Solutions

Task 1: Conduct site survey 5%

Using a blueprint, can you observe site conditions? Using measurement tools and meters, can you document site conditions?

I must learn more I need to review I mastered this task

Recommended study:

- *Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry*
 - Want to test your understanding of the AV Best Practices book? [Take this test.](#)
- [AV Installation Handbook: Appendix](#)

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Task 2: Gather customer information 6%

Can you obtain scale drawings, customer contact information, and customer constraints?

I must learn more I need to review I mastered this task

Recommended study:

- *INS201 Installation Online*
- *Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry*
 - Want to test your understanding of the AV Best Practices book? [Take this test.](#)
 - View a related presentation: [Audiovisual Best Practices: Determining the Users' AV Needs](#)

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Task 3: Evaluate site environment 6%

Can you assess acoustics, lighting, sight lines, furniture layout, etc?

I must learn more I need to review I mastered this task

Recommended study:

- AV Design Reference Manual or [DES201 Design Online](#)
- [AV Installation Handbook: Appendix](#)

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Task 4: Recommend changes to site environment **5%**

Can you recommend changes to site acoustics, lighting, sight lines, furniture layout, etc? Can you advise a client regarding changes to structure, zoning considerations, etc?

I must learn more I need to review I mastered this task

Recommended study:

- *AV Design Reference Manual*
 - or [DES201 Design Online](#)

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Task 5: Develop a functional AV scope **6%**

Can you compile site information, document recommendations, present findings to a customer and obtain project approval?

I must learn more I need to review I mastered this task

Recommended study:

- *Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry*
 - Want to test your understanding of the AV Best Practices book? [Take this test.](#)
- [DES201 Design Online](#)

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Task 6: Design AV solutions **10%**

Can you determine AV components, develop block diagrams, and create specifications and drawings?

I must learn more I need to review I mastered this task

Recommended study:

- *AV Design Reference Manual*
 - or *DES201 Design Online*
- [AV Math: Aspect Ratio](#)
- [AV Math: Throw Distance](#)
[How Big is Your Pixel](#) OnDemand
- [How to Size a Projection Screen](#) OnDemand

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Task 7: Sell AV solutions

5%

Can you present a proposal, negotiate a contract, and review customer needs analysis?

I must learn more I need to review I mastered this task

Recommended study:

- [Professional AV Sales Skills self-study](#)
- [Enterprise-Level Selling](#) OnDemand

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Task 8: Conduct vendor selection process

4%

Can you review proposals, seek clarification from vendors, and award contracts?

I must learn more I need to review I mastered this task

Recommended study:

- *Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry*
 - Want to test your understanding of the AV Best Practices book? [Take this test.](#)

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Task 9: Market AV technologies

4%

Can you develop a marketing message and budget?

I must learn more I need to review I mastered this task

Recommended study:

- *Gen101 Quick Start to the Audiovisual Industry Online*, Chapter 1 ([register for free](#))

Task 10: Provide AV solutions

9%

Can you install, set up, and configure equipment? Can you configure network systems? Can you train users? Can you produce AV events?

I must learn more I need to review I mastered this task

Recommended study:

- *AV Setup Guide for Events, Meetings, Conferences, and Classrooms*
 - or *PTS101 Principles of Tech Support Online*
- *AV Installation Handbook: The Best Practices for Quality Audiovisual Systems*
 - [AV Installation Handbook: Appendix](#)
 - Not sure if you should to read the whole book? Register for these [four free, online self-assessments](#) on cable termination, rack building, cable handling, and mounting.
- *INS201 Installation Online*

- *GEN103 Audio-Video and Control System Networking Online*
 - Do you know your AV networking? [Take this pre-test.](#)
- Live Event White Paper: [Operations](#)
- Live Event White Paper: [Networks and Systems](#)
- Live Event White Paper: [Viewing Environments](#)
- [Dashboard for Controls Template](#)
- [Dashboard for Controls Design Reference](#)
- [Terminating Series 59 Coax with a BNC Connector](#) OnDemand
- [Linear Compression Termination](#) OnDemand
- [Using a Multimeter](#) OnDemand
- [AV Equipment Rack Dressing](#) OnDemand

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Domain B: Operating AV Solutions

Task 1: Operate AV solutions

6%

Can you verify equipment is operating properly, operate the solution, and conduct shutdown activities?

I must learn more I need to review I mastered this task

Recommended study:

- *AV Setup Guide for Events, Meetings, Conferences, and Classrooms*
- Live Event White Paper: [Operations](#)

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Task 2: Conduct maintenance activities

4%

Can you perform preventative/first line maintenance, test leads and equipment, and document maintenance results?

I must learn more I need to review I mastered this task

Recommended study:

- *AV Setup Guide for Events, Meetings, Conferences, and Classrooms or INS201 Installation Online*

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Task 3: Manage AV solutions/operations

5%

Can you manage stock and material levels and liaise with vendors and suppliers? Can you train users and conduct basic troubleshooting?

I must learn more I need to review I mastered this task

Recommended study:

- *AV Setup Guide for Events, Meetings, Conferences, and Classrooms*
- Live Event white paper: [Project Management and Budgeting](#)
- *PTS101 Principles of Tech Support Online*
- [The Emerging Event Staging Operation](#) OnDemand

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Domain C: Conducting AV Management Activities

Task 1: Project manage AV projects 5%

Can you liaise between stakeholders (engineers, owners, architects, project team, etc.)? Produce project documentation (Gantt charts, timelines, progress reports, etc.)?

I must learn more I need to review I mastered this task

Recommended study:

- *Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry*
 - View a related presentation: [Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industries](#)
 - Want to test your understanding of the AV Best Practices book? [Take this test.](#)
- Live Event white paper: [Project Management and Budgeting](#)

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Task 2: Evaluate AV personnel competencies 3%

Can you prepare job descriptions/task lists, interview prospective applicants, and conduct employee reviews?

I must learn more I need to review I mastered this task

Recommended study:

- [Writing Job Ads](#)
- [Interview Do's and Don'ts](#)
- [Employee Retention Tips](#)

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Task 3: Conduct estimating activities **4%**

From project documentation, can you Identify quantities (equipment, materials, services, content, tools and labor) and estimate costs?

I must learn more I need to review I mastered this task

Recommended study:

- *Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry*
 - Want to test your understanding of the AV Best Practices book? [Take this test.](#)
- Live Event white paper: [Project Management and Budgeting](#)
- [Improving AV Project Flow](#) OnDemand
- [Calculating Conduit Capacity](#) OnDemand

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Task 4: Conduct purchasing activities **2%**

Can you review estimates, purchase orders and proposals, create purchasing list, confirm pricing, make purchases, and follow up on delivery/backorder statuses?

I must learn more I need to review I mastered this task

Recommended study:

- *Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry*
 - Want to test your understanding of the AV Best Practices book? [Take this test.](#)

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Task 5: Conduct job costing activities **3%**

Can you determine burdened (on-costs) labor rates, gather field reports/time sheets, analyze project expenses, and create project profit and loss documents?

I must learn more I need to review I mastered this task

Recommended study:

- *Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry*
 - Want to test your understanding of the AV Best Practices book? [Take this test.](#)

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Domain D: Servicing AV Solutions

Task 1: Troubleshoot AV solutions

4%

Can you confirm/clarify reported issues, review warranty/maintenance agreement status, identify the problem, and determine corrective action (repair, replace, remove, etc.)?

I must learn more I need to review I mastered this task

Recommended study:

- *AV Setup Guide for Events, Conferences, Meetings, and Classrooms*
- *PTS101 Principles of Tech Support Online*

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Task 2: Repair AV solution

4%

Can you implement corrective action determined in troubleshooting, verify the resolution, and document the problem and resolution (maintenance logs, materials, time, travel, billables, etc.)?

I must learn more I need to review I mastered this task

Recommended study:

- *PTS101 Principles of Tech Support Online*
- *INS201 Installation Online*

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Certification Preparation Worksheet

Tally the resources that help you identify your preparation priority areas.

Remember:

<6 months experience in AV industry: *Quick Start to the Audiovisual Industry Online* ([more](#))

<1 year experience in the AV industry: *Essentials of the AV Industry* the book ([more](#)) or GEN106 Essentials of AV Technology Online ([more](#)) or GEN102 Essentials of the AV Industry . Do you know your AV essentials? [Take this pre-test.](#)

InfoComm Academy Resources	Free or for Purchase (\$)	I must learn more	I need to review
<i>Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry</i> (more) Free online test	\$ and Free		
<i>AV Design Reference Manual</i> (more)	\$		
AV Equipment Rack Dressing OnDemand	Free		
<i>AV Installation Handbook: The Best Practices for Quality Audiovisual Systems</i> (more) -- Free section: Appendix -- Four free online tests	\$ and Free		
AV Math: Aspect Ratio	Free		
AV Math: Throw Distance	Free		
<i>AV Setup Guide for Events, Meetings, Conferences, and Classrooms</i> (more)	\$		
Calculating Conduit Capacity OnDemand	Free		
Dashboard for Controls Design Reference	Free		
Dashboard for Controls Template	Free		
<i>DES201 Design Online</i> (more)	\$		
Employee Retention Tips	Free		
Enterprise-Level Selling OnDemand	Free		
<i>GEN101 Quick Start to the Audiovisual Industry Online</i> , Chapter 1 (more)	\$		
<i>GEN103 Audio-Video and Control System Networking Online</i> (more) Pre-test	\$		
<i>GEN104 AV Math Online</i> (more)	\$		
How Big is Your Pixel OnDemand	Free		
How to Size a Projection Screen OnDemand	Free		
Improving AV Project Flow OnDemand	Free		
InfoComm Academy Glossary			
<i>INS201 Installation Online</i> (more)	\$		
Interview Do's and Don'ts	Free		
Linear Compression Termination OnDemand	Free		
Live Event white paper: Project Management and Budgeting	Free		
Live Event white Paper: Networks and Systems	Free		
Live Event white Paper: Operations	Free		
Live Event white Paper: Viewing Environments	Free		
Professional AV Sales Skills self-study	\$		
<i>PTS101 Principles of Tech Support Online</i> (more)	\$		
Terminating Series 59 Coax with a BNC Connector OnDemand	Free		
The Emerging Event Staging Operation OnDemand	Free		
Using a Multimeter OnDemand	Free		
Writing Job Ads			