



# JTA Qualification Process

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Report\_1  
8/05/04

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# Formal Qualification Process

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## **Qualification Plan document**

- describes steps necessary to certify that the JTA will meet all system requirements
- prepared by the Quality Engineer with input from all PRT members
- describes the Evaluation Status Release (ESR) requirements

### **ESR1**

- typically done after the Conceptual Design Review
- JTA PRT evaluates the adequacy of requirements and identifies any “holes”
- after completion, detailed JTA design can proceed

### **ESR2**

- typically done after the Baseline Design review
- JTA PRT evaluates both the Qual. Plan and validation activities (e.g. system tests)
- after completion, PRT will determine if JTA design will meet all requirements

### **ESR3**

- typically done after the Final Design Review
- JTA PRT evaluates system test results, TE qualification, PPI unit performance
- after completion, PRT will determine whether JTA design is ready for production

### **ESR4 (Qualification Evaluation Release (QER))**

- typically done after first production unit build
- JTA PRT reviews FPU unit data and production processes



# JTA System Test Units

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## **LTU** (Laboratory Test Unit)

- JTA Instrumentation System only
- complete functional and environmental testing is performed



## **DCT** (Detonator Compatibility Test unit)

- Complete JTA assembly (to the extent possible)
- complete functional testing (including “end event”)



## **GTQU** (Ground Test Qualification Unit)

- Complete JTA assembly
- complete functional and environmental testing is performed

## **DJTA** (Development Joint Test Assembly unit)

- Complete JTA assembly and DoD carrier
- complete functional and minimal environmental testing
- flight testing performed





# **Requirements Documentation**

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## **Environmental Specification (ES):**

- describes both mechanical and thermal environments that the JTA must survive

## **Mechanical Envelope (ME):**

- describes both the mass properties and the mechanical interfaces for the JTA.

## **Control Document(s) (CD):**

- describes the JTA configuration, electrical interfaces (to the WR WES), what parameters need to be measured by the JTA, and what PUPs are used.

## **Interface Control Document(s) (ICD):**

- defines both the mechanical and electrical interfaces between the JTA flight unit and the DoD carrier (missile or aircraft).

## **Range Interface Definition:**

- contains information the test ranges need in order to properly record flight data, including data format, RF specifications, and link analysis

## **Data List:**

- contains a detailed list of all parameters to be measured during flight tests



# Qualification Process Flowchart

