

**Alpha Plan—ATM Workbench  
Documentation Upgrade  
for the  
Programmer's Solution Guide  
and  
Command Reference Manual**

**November 1, 1998**

# Alpha Plan—ATM Workbench Documentation Upgrade

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# Alpha Plan Overview

## Definition

The Alpha project is the upgrade to the ATM Workbench Programmer's Solutions Guide and Command Reference manual that enables building of testbench models to be run by a simulator that includes a prototype. We will develop and deliver prototype sections of the new manual(s) for selected customer evaluation. For example, deliver the Generator sections of the new manual(s) in December, then deliver subsequent sections later as they are completed.

## Scope

This plan clearly defines the processes, guidelines, task descriptions, and schedule for upgrading specified portions of the current ATM Workbench Programmer's Solution Guide and Command Reference manual. Upon successful completion of the activities defined by this plan and internal review, Alpha documentation for the ATM Workbench Programmer's Solution Guide and Command Reference manual will be delivered to selected customers.

Responsibilities and schedules are included for the primary required activities. Scheduling also needs to allow for verification of these activities.

The target date for the completion of the prototype is December 15, 1998. This date is intended to guide decisions made by the team when considering the schedules to implement the tasks to complete the upgrade.

After the team has reviewed the required activities and has provided input for the technical writer to use to develop and define a schedule (modify the current estimated schedule to define the actual schedule), he will complete this plan and the milestones for the schedule, then the target date will be transitioned to a firm, committed documentation upgrade release date.

## Plan Organization

The plan is organized in the following primary sections:

- Documentation Plan Review
- Enhancement Processes
- Document Enhancement
- Rewriting the Manuals
- Upgrade Schedule
- Dependencies

# Alpha Upgrade Overview

The activities to produce and schedule to deliver the upgraded documentation sections and the prototype are:

- Assessing user needs from the documentation
- Adding new material
- Defining and assigning project responsibilities
- Preparing a schedule
- Executing tasks
- Publish and deliver

## Preparation Mechanics & Guidelines

Producing the deliverable (upgraded manual sections) and scheduling the project (activities, resources, and milestones) require establishing the methods (mechanics and guidelines) to successfully complete the effort defined by the plan.

### *Mechanics*

- **Define a process**  
Under the Technical Writer's direction, the team will provide input for him to develop a "roadmap" to clearly define goals, methods to achieve these goals, and a time line in which all activities must be completed. Each participant will be assigned activities to complete over a specified time period as well as be responsible for completing specific "deliverables" by a specified date. Each activity is defined in this plan and must be completed according to the schedule in order for this plan to be successful.
- **Define documentation content**  
The documentation content is the information the user must know to use the commands to build only the most solutions-oriented testbenches.
- **Derive content**  
The team will define and approve what the user needs to know (using task assessments and practical experience from Subject Matter Experts), define and determine what to include in the manuals based on this assessment, revise current information or generate new material to ensure only the pertinent information is included, evaluate and review the drafts, and approve the final product before delivering to the customer.
- **Input information**  
The Technical Writer will gather material from current sources such as the customer database, requests for new and revised material from SMEs and others reviewing the manuals, running the demos and critiquing what to keep, and from customer feedback based on reviews of the prototype sections of the document (covered later in this plan).

## *Guidelines*

- **How to effectively assess current documentation**  
Several levels of resources representing novice, intermediate, and expert level will carefully read through all sections and note deficiencies, questions, concerns, issues, etc. regarding accuracy, thoroughness and clarity of information. A list of all findings and assessments will be made. The Technical Writer will then compile a “master list” of these, and forward this list to the primary SME for review and comment. The SME provides an assessment from which the necessary material to upgrade is determined.
- **Evaluate documentation content and use in accordance with the ATM standard recommendations documents**  
These standards serve as the primary guideline for using the documentation to develop testbenches. Include a dedicated section at the beginning of the manual(s) listing all documents referenced by the standard, including each document’s date and version. Maintain this dedicated section in accordance with standards’ modifications.
- **How to re-define/restructure/rewrite the information**  
The team decides what information the user needs using a user assessment matrix and input from the customer, then evaluations will be made to obtain the correct information and rewrite (and/or manage SMEs to provide the input) and reorganize.
- **What to include**  
Only that information identified from the assessments and from the team’s evaluation of the accuracy and thoroughness of the existing information and of the customer database will be included in the manuals.
- **Establishing priorities**  
The priority defines what is required (as a minimum) measured against what is feasible.
- **Working as a team**  
The team agrees on the manner to review the Alpha Plan and provide feedback, assist define the appropriate information to include in the upgrade, provide technical input as needed (for example, text explanations, examples, and figures), and review the new documentation.

## How the Specified Audiences Use The Documents

### *Audience Profile*

These audience types are users of the documentation:

- **Design Engineers.** These readers are educated (BS in Electrical Engineering, and beyond), and are most interested in how to use the product to generate and analyze the testbenches. These readers can be assumed to be goal-oriented and to have prior knowledge of similar but alternative subject matter. They probably will be interested in the logic of the product and its processes, but not

at the expense of design time. They may not require excruciating detail in order to infer underlying product use.

- **System Engineers.** Expert-level engineers who have extensive previous experience using similar or the same products, and who have expert-level knowledge of performing compliance and system verification on real-world schemes.

**Note: The User Task Matrix represents the highest level of tasks for building testbenches. The SMEs will fill in this matrix and the technical writer will use the profiles to help evaluate whether or not the proper detail is provided in the manuals.**

*User Task Matrix*

|                                 |  |  |   |   |   |
|---------------------------------|--|--|---|---|---|
|                                 |  |  |   |   |   |
| Entry-Level Designers (novice)  |  |  | X |   |   |
| Intermediate Designers          |  |  | X | X |   |
| Advanced Designers (super user) |  |  | X | X | X |
| Others?                         |  |  |   |   |   |

*Prerequisites*

At the beginning of the documentation, define how fluent the user must be with ATM technology as well as to what level of knowledge the user must have of the appropriate standardization organisms and the associated recommendations (for example, ITU-T, ATM Forum, Bellcore).

**Documentation Plan Review**

- **Develop the schedule**  
The official schedule is a separate document created using MicroSoft Project.
- **Internal review by novice, intermediate, expert**  
Team personnel representing these levels will participate in all reviews for all of the materials.
- **Limited customer set**  
The customer will participate in the initial review of the Alpha Plan and will review and approve the prototype.

## Upgraded Documentation and Prototype Review

- Develop the schedule  
The official schedule is a separate document created using MicroSoft Project.
- Technical Writer's Review  
The Technical Writer is responsible for coordinating all reviews of all materials by the chosen team participants. The Technical Writer's individual review input and comments will focus on the clarity, structure (that is, logical order), and presentation (style, where applicable and approved) of the information.
- Internal SME review  
SMEs will receive hardcopies of all material requiring their review and comments. A cover sheet indicating what to review, how to make comments, the nature or purpose of the review, and how much time is allowed for review as well as an area for an authorization signature, indicating acceptance of the information (either as is or contingent on its inclusion in the manuals), will be attached to all documents distributed for review.
- External customer review (by selected customer only)  
The customer review will enable the customer to review and comment on the Alpha Plan to assist the team better understand their documentation needs and to provide suggestions for what to include in the upgrade. Customer review will be coordinated by a designated authority, who will communicate the results of the customer's review to the team. The team will evaluate the customer comments and determine how to work them into the Alpha upgrade of the documentation. The Technical Writer will write a separate set of guidelines to instruct the team how to work with the comments.

## FAQ Document Review

- External to the Alpha Plan
- A separate plan will be written for this review
- Develop the schedule
- Poll customers/database
- Internal SMEs

## Error Message Report Review

- External to the Alpha Plan
- Some of this can be "gleaned" from the Customer Database; a catalog of system messages will provide the detailed message causes.
- Develop the schedule

- Problem/bug reports (reports showing problems with product use and things that just plain don't work the way they were designed to)  
This can be covered in Release Notes, written separately from the manuals.
- Usability surveys  
Determine what errors are command related or which are
- Catalog of system messages (informational, errors, warnings)

## Beta Document Review

- A separate plan will be written for this review
- Develop the schedule
- Internal SMEs
- Internal reviewers
- Limited customer review

## Q/A Document Review (Includes On-line Questions from Customers)

- Develop the schedule  
The official schedule is a separate document created using MicroSoft Project.
- Evaluate customer input
- Prioritize into Must, Should, Could fixes  
The Technical Writer and the team will prioritize the fixes after the Writer's review of the file on documentation issues and on his consulting with a designated authority and other team members.
- Assign to SME for assistance with  
The Technical Writer prepares a list of questions on the document issues both from his and other team members' review of the manuals and of the customer database and forward this list to the SME, who will assign priority to the issues.
- Develop solutions and a plan to achieve  
The Technical Writer and selected team members will identify how to address and the Writer will write the plan.
- Incorporate solutions into the sections to upgrade and the full upgrade and prototype  
The Technical Writer provides the guidelines for this after Must, Could, Should solutions are prioritized.
- Upon approval, incorporate solutions to upgrade the manuals  
The Technical Writer writes the material into the manuals.

# Enhancement Processes

## Update Process

This section provides an overview of the process for updating the existing material in the ATM Workbench User and Reference manuals to be used by customers.

These phases are required for successfully completing this large-scale documentation project, although not all phases require the same amount of time.

- Identifying the Deficiencies
- Information Planning
- Content Specification
- Implement the Enhancements (Refer to “Document Enhancements (Musts)” on page 14)
- Production
- Evaluation

The activities in these phases take into account that some of the tasks within each category may sometimes overlap.

### Phase 1: Identifying the Deficiencies

Review the customer-defined deficiencies, customer database, lists of questions, input from SMEs. Then, the SMEs will rank the issues and rate the level of priority. A separate document will be written to provide the details to list the issues arising from the deficiencies and the duration for this task.

- Review the Customer Database  
The Technical Writer reviews the issues in the file created specifically for this and prepare a list of issues.
- “Dissect” the existing topics in the manuals and re-evaluate “coverage”  
Combine these issues arising from the deficiencies with the issues from the customer database and all other sources.
- Review, rate, and prioritize the issues and assign action items to resolve.  
The team will read carefully through the list, prioritize all input based on user needs and time to complete, then schedule and assign the activities to an SME.

### Phase 2: Defining the Tangible Needs

Activities in this phase include the team gathering information to develop a user profile for, assessing what the user needs to know, and defining usability goals.

- The SMEs will fill in a user profile to define user needs, based on,
  - audience for the document

- goals of the audience and the major tasks they want to be able to perform (in accordance with the user/task matrix) with the help of the document
- environment in which the documentation will be used
- nature of the subject matter to be discussed; that is, when to use reference, user guide, tutorial, or demo
- The SMEs will define and classify the user profiles according to both the particular amount of information required to use the commands and at what level of knowledge the user has (from practical experience)
- The Technical Writer develops a user task assessment based on the user profile
- The SMEs will establish usability goals as to what end the information is to be used (compliance verification, system verification, real-world schemes)

### Phase 3: Scheduling and Monitoring

Activities in this phase include monitoring, reviewing, and refining the Alpha plan. (all of these need to be “driven” from the “top->down”, and require a “decision by committee” from what sources (such as reports, metrics) will these re-estimates/ revisions be made)

In the initial stages, estimates of needed resources, time, and tools are likely to change as project details become more clear. The method to communicate the details will consist of obtaining review input from SMEs pertaining to the materials distributed on issues, user tasks, and evaluating user needs for commands, then evaluating and assessing what to turn into activities (action items) and prioritizing those activities.

### Phase 4: Define Upgrade and Prototype Solutions (through compartmentalized tasks)

Develop a models to “fix” key problem areas. Evaluate, test, and approve the models (internally and from the customer). Then, expand model solutions to the rest of the documentation.

- Define key problem areas (representing the entire documentation)
 

Three problem areas have been identified by selected customers and forwarded to the Technical Writer, who in turn, has forwarded to the team. Additional problem areas will be identified as a result of the teams review of the issues the Technical Writer has summarized and sent to the team (issues may be removed, based on priority as Must, Should, Could; other issues may be added, depending on the results of further documentation review both internally and by the customer).
- Assign tasks
 

Based on SME knowledge and authority

- Develop and create “models” to “fix” these key problem areas  
Building command files to create testbench generation command files
- Evaluate/test/validate the models  
In accordance with ATM specifications
- Obtain approval on the models  
Official signoff
- Expand model solutions to the rest of the documentation

## Phase 5: Implementation

In this phase, the Technical Writer exercises control of the project to coordinate gathering of all information from all approved sources to create drafts, coordinate reviews, and update all drafts with new and/or revised information.

- The SMEs provide all the technical inputs necessary to complete the description of the issue to provide the Technical Writer all the details to rewrite the issue. The Technical Writer creates a checklist to assist the SME in understand what they need to provide. Example checklist items are definition of all parameters, file format examples, waveforms (if appropriate), an example with comments, etc.
- Coordinate draft reviews  
The Technical Writer coordinates reviews by the SMEs and other designated reviewers for the full upgraded version and the prototype.
- Obtain final sign-off approval before production  
The Technical Writer obtains overall, complete documentation suite authority signature(s) on an official project acceptance sign-off sheet. The Project Director and appropriate SMEs will provide the approval.

In this phase, the Technical Writer also writes, formats, and illustrates (or finds an illustrator to illustrate such as more complex process and flow figures) the documents.

In this phase the Technical Writer also creates the index.

<<structured/defined Index markers so that the Index can be used to locate both “reference” and “task” information in the document>>

## Phase 6: Production & Delivery

The Technical Writer’s activities in the Production and Delivery phase include all activities to prepare the document suite for publication and forward the completed document suite to the appropriate sources.

## Phase 7: Evaluation (of finished project)

- How to measure the results
- Lessons learned

- Document process flow
- Document project (estimated schedule vs. actual)
- Where to make improvements (in the process & in the product for the next time around)
- What's next?

# Document Enhancements (Musts)

## Command Content Enhancements

The following high-level content enhancement guidelines should be followed at all times. Each guideline has been labeled with a must, should, or could tag to indicate either relative priority or practicality for performing for meeting the upgrade release date.

### *Consistent Command Usage Globally*

There must be consistent command-line usage explanations for all commands. The command-line usage models need to be made consistent for all commands. All commands should have a minimum set of basic command line options, such as -h (or help) to provide help on command usage and v (or V) to provide version information. The basic command line options should be defined by engineering.

### *Consistent Command File Option Explanations*

A consistent command file explanation needs to be used for all commands to aid usability as well as set user expectations as to how to use the information. For example, divide all command explanations into categories something like Usage, Syntax, Parameters, Components.

### *Thorough Command Descriptions*

Each command listed must be checked to ensure that the information presented about it is correct, complete, and best explains command use. This will enable the team to detect errors in command use before information about its use is re-published.

### *Troubleshooting Information*

All error information about a command will provide clear and complete information that will allow a user to troubleshoot what caused the problem.

All error-related information needs to provide clear and concise information that identifies what is wrong. Additional information regarding hints and suggestions on what the user should do to correct the problem would significant add to the usability of the document.

### *Categorize Information Pertaining to Command Failure*

The documentation must categorize and clearly define what failure modes (error, fatal error, warnings etc.) each problem with a command falls into.

The manuals must contain information that helps the user understand what to expect under error and warning conditions. If the user has any options on controlling termination on error, then the manual needs to clearly define those options.

### *Command Explanations Between Documents*

Problems associated with command compatibility (when used for generation and/or analysis) must be minimized, and explanations must be consistent.

Users require a simple, concise, and “synchronized” explanation when explaining command use, function, associated variables, etc. between different documents. To assist usability for the customer, all commands and command line options should be clearly explained in the same manner so that users can execute the commands with a minimal amount of having to consult other resources. This includes explanations about inputs required (files, for example) and outputs generated (like results in the demos).

### Procedure Content Enhancements

#### *Tasks Indicators*

Each procedure for which the user is required to enter information must be introduced, have either a single step or a series of numbered steps, and a clear indication that the user has completed the procedure.

Where appropriate, each procedure for which a user is required to enter information must have an indication of system responses and/or prompts for additional user input.

#### *Graphical User Interface (GUI)*

Include the chronograms showing the specific GUI of the results of running the testbench with a simulator.

#### *Task vs. Narrative*

Procedures must be clearly identified separate from narrative explanation about command function or use.

#### *Command-file Entries*

Building a command file must clearly show the format and syntax of the command. The ordering of the commands within the commands file to achieve the procedure must be shown properly.

These entries should be clearly indicated by being off-set from narrative explanations; for example, with adequate white space above and below or enclosed in a ruled box.

*Command/Component Use vs. Problems Matrix for the Programmer's Solution Guide*

| Command Set        | Use                                 | What's Missing  | Customer Use Problems   |
|--------------------|-------------------------------------|---|---|
| ATM_CELL_GENERATOR | Cell stream programming and display | <ul style="list-style-type: none"> <li>• Waveform</li> <li>• Usage example</li> </ul> | <ul style="list-style-type: none"> <li>• Can't test the concept</li> <li>• Can't evaluate output</li> </ul> |
|                    |                                     |   |   |
|                    |                                     |   |   |
|                    |                                     |   |   |
|                    |                                     |   |   |

*Command/Component Use vs. Problems Matrix for the Command Reference Manual*

| Command Set        | Use                                 | What's Missing  | Customer Use Problems   |
|--------------------|-------------------------------------|---|---|
| ATM_CELL_GENERATOR | Cell stream programming and display | <ul style="list-style-type: none"> <li>• Options</li> <li>• Parameters</li> </ul> | <ul style="list-style-type: none"> <li>• Not all scenarios are covered</li> </ul> |
|                    |                                     |   |   |
|                    |                                     |   |   |
|                    |                                     |   |   |
|                    |                                     |   |   |

## Publishing and Delivery

The Technical Writer performs all tasks to write material and prepare the document suite for publication. Activities for rewriting, reviewing, copyediting, and performing production tasks are summarized here. Refer to the Master Schedule for complete details on tasks, duration, start and completion dates, and resources.

- Writes all material using FrameMaker desktop publishing software.
- Conducts technical accuracy reviews by SMEs and designated authorities.
  - The basic minimum per chapter is one full day in the first (technical, integration) review **AND**
  - One half day of review per chapter in the final (verification) review.
- Conducts production reviews  
Reviews documentation in accordance with “proof” checklists for compliance with Synopsys writing and style standards and other required publication practices.
- Performs a copyedit of the text.
- Incorporates final copyedits.
- Generates the final Table of Contents, List of Figures, List of Tables, and Index for the Programmer’s Solution Guide and Command Reference Manual.
- Performs final quality assurance on the documentation.
- Delivers a hardcopy of all material to the designated authority.

