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# RTAP/Plus Programming

## Technical Data

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### Course Overview

Gain an understanding of programming concepts specific to windows and event-drive systems using RTAP/Plus API (Application Programming Interface).

### Course Features

- Perform database reads, writes, and queries.
- Send and receive messages.
- Configure event manager.
- Configure time keeper.
- Send outputs and control sequences to field devices.
- Access alarm/historian/trending subsystems.
- Load schematics and attach to database.
- Load and activate controls panels.
- Add a new calculation engine function.
- Learn about writing a scan task.

### Specifications

#### Course Length

5 days

#### Audience

System integrators and programmers who will be developing applications with RTAP/Plus.

#### Prerequisites

RTAP/Plus Integration (B2773A+24C), C programming experience, and familiarity with UNIX utilities such as "make".

#### Delivery Method

Classroom or dedicated

#### Format

Course content is 30% lecture and 70% hands-on labs.

### Classroom Training Benefits

#### Experienced HP Instructors

Learn from an experienced HP instructor who is an expert in using and applying RTAP to meet your system needs.

#### Available at HP Classrooms or Your Site

Take advantage of HP's learning facilities, equipment, and interactive learning environment by attending class at an HP facility. Or, save travel expenses and time by organizing a dedicated class at your location.

#### Regularly Scheduled Classes

Plan training months in advance.

#### Extensive Hands-on Practice

HP classroom training is characterized by extensive hands-on experience and interactive class discussion. HP classroom training pays off immediately because it is geared to real-world solutions.

#### Comprehensive Student Materials

Copies of course materials are provided for future reference on the job.

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## RTAP/Plus Programming (B2773A+24X)

### Course Agenda

#### Introduction

- Execution of Sample Applications

#### RTAP/Plus Development System

- Development Libraries
- Programmer's Documentation
- Makefile

#### UIP Programming Basics

- What Objects Are
- Window Hierarchies
- Writing Event Handlers
- Four Ways to Pass Data in RTAP/Plus
- Passing Additional Parameters to Event Handlers

#### Programming for an RTAP/Plus System

- RTAP/Plus Data Types
- Error Scheme
- Process Scheduler API
- Reading and Writing Database Values
- Sending a Message
- Communicating Between Processes
- Configuring the Time Keeper
- Configuring the Event Manager
- Controlling the Scan System
- Receiving alarms
- Trend API

#### User Interface

- Displaying Schematics
- Animating Schematics
- Creating Hotspots
- Using Control Panels for I/O
- Build Calculation Engine Function
- Customize Reports
- How to Write a Scan Task

### Ordering Information

To order RTAP/Plus Programming (B2773A+24X) in the U.S. call 1-800-HPCLASS (800-472-5277).

HP's Customer Registration Center can provide you with price, scheduling, and enrollment information, as well as provide information about dedicated delivery (B2773A+24Z) or customizing a course for your specific needs.

Outside the U.S., contact your nearest local HP sales office.

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