

LEARNING PATH



To enroll in PROVOX courses or for more information, please call:
800-338-8158 or 641-754-3771

PROVOX Configuration Engineer Courses with Continuous Processes

Configuration Platform / Operator Interface Platform: (course should be taken in following sequence)

ENVOX / PROVUE:	Courses 5160; 5360
ENVOX / Operator Workplace (OWP):	Courses 5170; 5370
ENVOX / PROVOX Operator Console (POC):	Courses 5190; 5390
Control Desktop / Operator Workplace (OWP):	Courses 5171; 5371
Control Desktop / PROVOX Operator Console (POC):	Courses 5191; 5391
Control Desktop / DeltaV Operate:	Courses 5197; 5397

PROVOX Configuration Engineer Courses with Batch Processes

Configuration Platform / Operator Interface Platform:

ENVOX / PROVUE:	Courses 5160; 5360; 5290
ENVOX / Operator Workplace (OWP):	Courses 5170; 5370; 5290
ENVOX / PROVOX Operator Console (POC):	Courses 5190; 5390; 5290

PROVOX Operations

Operator Interface Platform / Processes:

PROVUE / Continuous:	Operator Training: Course 5180; Training-the-Trainer: Course 5182
PROVUE / Batch:	Operator Training: Course 5280; Training-the-Trainer: Course 5282
Operator Workplace (OWP) / Continuous:	Operator Training: Course 5181; Training-the-Trainer: Course 5183
Operator Workplace (OWP) / Batch:	Operator Training: Course 5281; Training-the-Trainer: Course 5283
PROVOX Operator Console (POC) / Continuous:	Course 5184
PROVOX Operator Console (POC) / Batch:	Course 5284

PROVOX Installation, Hardware & Troubleshooting Courses

PROVUE, OWP & PROVOX, Operations Consoles with SRx, SR90 Controllers:

Course 5503

DeltaV™ Operate for PROVOX:

Course 7060 (see page 73)

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PROVOX® Many training courses are available for individuals serving the worldwide installed base of the well-established PROVOX distributed control system. As the technology is continually evolving, PROVOX training is updated accordingly and should be considered by anyone responsible for configuring, operating, and troubleshooting this system.

PROVOX System Configuration Using Control Desktop and DeltaV Operate

Course 5197 CEUs: 3.2

This course is designed for process control engineers, senior maintenance technicians, and supervisory personnel responsible for using ENVOX P5.0 Control Desktop software to configure a DeltaV Operate for PROVOX Console and either a SR90 or SRX Controller. This course is the prerequisite for the Advanced Continuous and Batch Schools.

Overview

This 4-1/2 day course teaches configuration of a SR90/SRX controller and DeltaV Operate for PROVOX Console. Students will configure the controller to do automatic control of a simulated process and a PROVOX Operator console to be used as an operator interface. Students who complete this course will be able to:

- complete the basic configuration for an SR90/SRX controller, to include basic device and database definition, I/O definition and data acquisition points
- use Control Desktop to configure the DeltaV Operate for PROVOX Console device definition and point alarm handling
- use DeltaV Run and the DeltaV Configure mode to create and test basic operator displays
- use Control Desktop software to create, copy and modify PROVOX database elements
- generate and download a basic DeltaV Operate for PROVOX Console Configuration containing PPA's, PMA's, and basic displays

Topics

- DeltaV Operate for PROVOX Console Configuration
- Control Desktop Configuration Software with ENVOX
- PROVOX Basic Point Configuration
- DeltaV Run and Configure Modes

Price \$2,950

Location Austin, TX
Start Dates 2009 Call to Schedule

Advanced PROVOX System Configuration Using Control Desktop and DeltaV Operate

Course 5397 CEUs: 3.2

This course is for configuration personnel responsible for configuration of the advanced function of the SR90/SRX controller and the DeltaV Operate for PROVOX operator interface using ENVOX P5.0/Control Desktop.

Overview

This 4-1/2 day course teaches students advanced configuration of the DeltaV Operate for PROVOX and the SR90/SRX Controller. At the completion of this course, the student will be able to:

- create and modify Loops, Cascade pairs, Advanced DCD's and Group points
- create Function Sequence Tables (FST's) and Logic Control Points
- utilize Trace Tune Utility Program to troubleshoot FST Programs
- use DeltaV Configure and run modes to create and test more advanced operator displays

Prerequisites

Any of the 51XX series of courses will serve as a prerequisites.

Topics

- Advanced Point Configuration
- Logic Control Points
- Loop Points
- Enhanced DCD's
- DeltaV Configure
- Advanced Scripting and Dynamo Creation

Price \$2,950

Location Austin, TX
Start Dates 2009 Call to Schedule

Introduction to PROVOX System Configuration Using ENVOX on a DEC-Based Platform

Course 5160 CEUs: 3.2

This course is for process control engineers, senior maintenance technicians, and supervisory personnel responsible for specifying and configuring a PROVOX system using ENVOX on a DEC-Based Platform. This course will include the basic configuration for the PROVUE console and an SR90/SRX controller.

Overview

This 4-1/2 day course teaches the base configuration of a PROVOX console and controller using ENVOX configuration software. A controller containing Data Acquisition Points, DCD's and loop points will be created. The student will also configure a functional PROVUE Console including displays, PMA's, and PPA's, using ENVOX configuration software. Students who complete this course will be able to:

- perform PROVUE Console operations
- use the ENVOX software to create, modify, and document the PROVOX database elements
- create, generate and download an IFC/UOC, SR90/SRX
- create, modify, and delete Data Acquisition, DCD and Loop Points
- create, generate and download a basic PROVUE Console configuration containing PPA's and PMA's, and basic displays

Topics

- PROVUE Console Configuration
- Envox Configuration Software
- Provox Basic Point Configuration

Price \$2,950

Location Austin, TX
Start Dates 2009 1/19, 6/1, 10/5



PROVOX Continuous Control Configuration Using ENVOX

Course 5360 CEUs: 3.2

This course is designed for process control engineers, maintenance engineers, and operations personnel responsible for the configuration of a PROVUE Operations Console, SR90/SRX Controller, using ENVOX on a DEC-Based Platform.

Overview

This 4-1/2 day course teaches students advanced configuration of the PROVUE Operations Console and the controller used for continuous process control. At the completion of this course, students will be able to:

- perform advanced PROVUE Console point operations with multiple PPAs, PMAs, and alarm priorities
- create and modify a Cascade Loop, advanced DCDs, and Group Point
- create Function Sequence Tables (FSTs) and Logic Control Points (LCPs)
- create and download an advanced PROVUE Console configuration
- utilize Trace/Tune software to troubleshoot FST programs
- use the display editor to create basic and advanced displays
- create Console Reports

Prerequisites

Course 5160, Intro. to PROVOX System Config. Using ENVOX on a DEC Platform

Topics

- Advanced Point Configuration
- Logic Control Points
- Cascade Loop Control
- Advanced Display Creation

Price \$2,950

Location Austin, TX **Start Dates 2009** 1/26, 6/8, 10/12

Introduction to PROVOX System Configuration Using ENVOX and Operator Workplace

Course 5170 CEUs: 3.2

This course is designed for process control engineers, senior maintenance technicians, and supervisory personnel responsible for specifying and configuring an OWP based PROVOX DCS Operations Console and controller. This course will include the basic configuration for the operator workplace console (OWP) and an SR90/SRX controller using ENVOX on a DEC-Based Platform.

Overview

This 4-1/2 day course teaches the base configuration of an OWP and controller using ENVOX configuration software. A controller containing Data Acquisition Points, DCD's and loop points will be created. The student will also configure a functional Operator Workplace Console including displays, PMA's, and PPA's using ENVOX configuration software. Students who complete this course will be able to:

- perform OWP console operations
- use the ENVOX software to create, modify, and document the PROVOX database elements
- create, generate and download an IFC/UOC controller
- create, modify, and delete Data Acquisition, DCD and Loop Points
- create, generate and download a basic OWP configuration containing PPA's, PMA's and basic displays

Topics

- OWP Console Configuration
- ENVOX Configuration Software
- PROVOX Basic Point Configuration

Price \$2,950

Location Austin, TX **Start Dates 2009** 1/19, 6/1, 10/5

PROVOX Continuous Control Configuration Using ENVOX and Operator Workplace

Course 5370 CEUs: 3.2

This course is designed for process control and maintenance engineers, and operations personnel responsible for the configuration of an Operator Workplace Console and IFC/UOC SR90/SRX Controller using ENVOX on a DEC-Based Platform.

Overview

This 4-1/2 day course teaches students advanced configuration of the OWP Console and the controller used for continuous process control. At the completion of this course, students will be able to:

- perform advanced OWP Console point operations
- create and modify Cascade Loops, advanced DCDs, and Group Points
- create Function Sequence Tables (FSTs) and Logic Control Points (LCPs)
- create and download an advanced OWP Console configuration
- utilize Trace/Tune software to troubleshoot FST programs
- use the display editor to create basic and advanced displays
- create Console Reports

Prerequisites

Course 5170, Intro. to PROVOX System Configuration Using ENVOX and Operator Workforce

Topics

- Advanced Point Configuration
- Logic Control Points
- Cascade Loop Control
- Enhanced DCDs
- Intelligent Device Interface (Optional)
- Advanced Display Creation

Price \$2,950

Location Austin, TX **Start Dates 2009** 1/26, 6/8, 10/12



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PROVOX System Configuration Using ENVOX and PROVOX Operator Console

Course 5190 CEUs: 3.2

This course is designed for process control engineers, senior maintenance technicians, and supervisory personnel responsible for using ENVOX on a DEC Based Platform to configure PROVOX Operator Console and either a SR90 or SRX Controller. This course is the prerequisite for the Advanced Continuous and Batch Schools.

Overview

This 4-1/2 day course teaches configuration of a SR90/SRX controller and PROVOX Operator Console. Students will configure the controller to do automatic control of a simulated process and a PROVOX Operator console to be used as an operator interface. Students who complete this course will be able to:

- complete the basic configuration for an SR90/SRX controller, to include basic device and database definition, I/O definition and data acquisition points
- use ENVOX to configure the PROVOX Operator Console device definition and point alarm handling
- use the Graphics Studio to create basic and some advanced operator displays
- use ENVOX software to create, copy and modify PROVOX database elements
- generate and download a basic PROVOX Operator Console Configuration containing PPA's, PMA's, and basic displays

Topics

- PROVOX Operator Console Configuration
- ENVOX Configuration Software
- PROVOX Basic Point Configuration
- Graphics Studio

Price \$2,950

Location Austin, TX
Start Dates 2009 1/19, 6/1, 10/5

PROVOX Advanced Continuous Control Configuration Using ENVOX and PROVOX Operator Console

Course 5390 CEUs: 3.2

This course is designed for configuration personnel who are responsible for configuration of the advanced function of the SR90/SRX controller and the PROVOX Operator Console operator interface using ENVOX on a DEC-Based Platform.

Overview

This 4-1/2 day course teaches students advanced configuration of the PROVOX Operator Console/SR90/SRX Controller. Students will:

- create/modify Loops/Cascade pairs/Adv. DCD's and Group points
- Function Sequence Tables/Logic Control Points
- Trace Tune Utility Program-troubleshoot FST
- use the Fix Graphics- create advanced Operator Displays

Prerequisites

Course 5190, PROVOX System Configuration Using ENVOX and PROVOX Operator Console

Topics

- Advanced Point Configuration
- Logic Control Points
- Loop Points
- Enhanced DCD's
- Graphics Studio Scripting
- Dynamos for Graphics Studio

Price \$2,950

Location Austin, TX
Start Dates 2009 Call to Schedule

ENVOX Server P5.0 & Control Desktop P5.0

Course 5265 CEUs: 2.5

This course is for process control engineers and programmers who are familiar with ENVOX Software and will be transitioning to the ENVOX Server P5.0/CONTROL DESKTOP P5.0 Software.

Overview

This 3-1/2 day course will cover the use of ENVOX Server P5.0/CONTROL DESKTOP P5.0 Software as compared to ENVOX 4.0 or earlier. Students will be able to:

- control desktop forms- configure PROVOX system
- GRAPHIC DESIGNER
- CONTROL DESIGNER
- LANGUAGE EDITOR

Prerequisites

Course 5360, 5370 or 5390

Topics

- NT Style Forms for Basic PROVOX System
- CONTROL DESIGNER
- GRAPHICS DESIGNER
- LANGUAGE EDITOR

Price \$2,950

Location Austin, TX
Start Dates 2009 Call to Schedule

PROVOX Batch Control Configuration Using ENVOX for PROVUE, DeltaV Operator for PROVOX Console and/or Operator Workplace Console

Course 5290 CEUs: 3.2

This course is designed for process control and maintenance engineers, and operations personnel responsible for the configuration of a fully functional Unit Operations Controller and operator interface.

Overview

This 4-1/2 day course will concentrate on the batch functionality for the SR90/SRX controller. The console resident activity point will also be covered. At the completion of this course the student will be able to:

- configure Operations and Unit Points to control a batch process
- create Procedures, Point Sets and Console Activity Points
- create console Batch End Reports
- perform advanced scripting for the PROVOX Operator Console

Prerequisites

Courses 5360, or 5370, or 5390, or 5391

Topics

- Unit and Operation Configuration
- Multiple Units and Operations
- Activity and Procedure Configuration
- Point Sets and Acquire Sets for Parallel Processes
- Batch End Reporting

Price \$2,950

Location
Austin, TX

Start Dates 2009
6/15

PROVOX System Configuration Using Control Desktop and PROVOX Operator Console

Course 5191 CEUs: 3.2

This course is designed for process control engineers, senior maintenance technicians, and supervisory personnel responsible for using ENVOX P5.0 Control Desktop software to configure a PROVOX Operator Console and either a SR90 or SRX Controller. This course is the prerequisite for the Advanced Continuous and Batch Schools.

Overview

This 4-1/2 day course teaches configuration of a SR90/SRX controller and PROVOX Operator Console. Students will configure the controller to do automatic control of a simulated process and a PROVOX Operator console to be used as an operator interface. Students will be able to:

- complete the basic configuration for an R90/SRX controller, to include basic device and database definition, I/O definition and data acquisition points
- use Control Desktop to configure the PROVOX Operator Console device definition and point alarm handling
- use the Graphics Studio to create basic and some advanced operator displays
- use Control Desktop software to create/copy/modify PROVOX database elements
- generate and download a basic PROVOX Operator Console Configuration containing PPA's, PMA's, and basic displays

Topics

- PROVOX Operator Console Configuration
- Control Desktop Configuration Software with ENVOX
- PROVOX Basic Point Configuration
- Graphics Studio

Price \$2,950

Location
Austin, TX

Start Dates 2009
1/19, 6/1, 10/5

PROVOX Adv. Continuous Control Configuration Using Control Desktop and PROVOX Operator Console

Course 5391 CEUs: 3.2

This course is for configuration personnel responsible for configuration of the advanced function of the SR90/SRX controller and the PROVOX Operator Console operate interface using ENVOX P5.0/Control Desktop.

Overview

This 4-1/2 day course teaches students advanced configuration of the PROVOX Operator Console and the SR90/SRX Controller.

- create/modify Loops/Cascade pairs/Advanced DCD's and Group points
- Function Sequence Tables/Logic Control Points
- Trace Tune Utility Program-troubleshoot FST
- use Fix Graphics create adv. Oper. Displays

Prerequisites

Course 5191

Topics

- Adv. Pt. Configuration
- Logic Control Pts.
- Loop Pts.
- Enhanced DCD's
- Graphics Studio Scripting
- Dynamos-Graphics Studio

Price \$2,950

Location
Austin, TX

Start Dates 2009
Call to Schedule



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PROVOX Systems Hardware and Troubleshooting: SR-90/20 and SRX IFC/UOC Controllers

Course 5503 CEUs: 6.7

This course is for those responsible for the hardware/troubleshooting of an Operator Workplace, PROVOX Operator Console, DeltaV Operate for PROVOX, or PROVUE Console-based PROVOX system.

Overview

This 9-1/2 day course covers hardware/troubleshooting of the highways, consoles, and SRx, SR90 Controllers with serial I/O using ENVOX diagnostic tools.

Topics

- Hardware/Troubleshooting of: - PROVOX Data Hwy I; - PROVOX Data Hwy II; - Control (serial) I/O Hardware; - Intelligent Device Interface (IDI).; - SRx Controllers; - SR90 (UOC/IFC/MCU/EMUX) Controller; - PROVUE Consoles Hardware (VME); - Operator Workplace (OWP) Console; - PROVOX Operations (POC) Console; - DC Power System; ENVOX Diagnostics; Downloading/Databases; Communications (PROVOX & Ethernet)

Price \$5,200

Location Austin, TX
Start Dates 2009 8/10

Mastering PROVOX FSTs

Course 5375 CEUs: 3.2

This course is designed for process control engineers and technicians responsible for configuring and maintaining IFC/UOC, SR90 Controller (Function Sequence Table) control language.

Overview

This 4-1/2 day course uses lectures and hands-on activities to teach students the strength and versatility of the FST control language. The course stresses learning the programming fundamentals and using them to solve control problems. Students use a software emulation package as a learning tool and as an FST development tool. Students who complete this course will be able to:

- demonstrate increased productivity and optimum creativity in writing effective FST programs
- maintain FSTs in an existing system without disturbing the on-line system
- develop FSTs from logic diagrams of the control system
- test their own control solution techniques before establishing them

Prerequisites

Students should have experience configuring PROVOX IFC or UOC devices and have completed at least one of the following courses: 5200, 5260, 5270, 5300, 5360, 5370 or 5391.

NOTE: The software simulation program used in the course FSTeacher is available as an optional add-on to the course fee. For more information, call 800-338-8158 or 641-754-3771.

Price \$2,950

Location Austin, TX
Start Dates 2009 9/14

PROVOX System Configuration Using Control Desktop 1.0/OWP

Course 5171 CEUs: 3.2

Overview

This 4-1/2 day course teaches configuration of the controller and OWP Console subsystems of a PROVOX DCS System. Students will configure a controller containing Data Acquisition Points, Loops, and DCD's; and an Operator Workplace Console. Students completing this course will be able to:

- monitor a basic process from an OWP console
- use Control Desktop with ENVOX software to create/copy & modify PROVOX database elements
- create an OWP console configuration, including PPA's and PMA's.
- generate and download the console and controller from the Control Desktop PC

Price \$2,950

Location Austin, TX
Start Dates 2009 1/19, 6/1, 10/5

These courses are available on request for customers having a minimum number of participants (normally at least 4).

To arrange training please call 1-800-338-8158 (within the U.S.) or 641-754-3771

CHIP Programming

Course 5400 CEUs: 2.8

Overview

This 4-day course demonstrates the use of the Computer/Highway Interface Package (CHIP) database and subroutines with both batch and continuous PROVOX instrumentation control systems. Students who complete this course will be able to:

- configure a CHIP database
- write programs to access CHIP database points and remote points
- write supervisory control programs to change parameters on local and remote points

Data Historian

Course 5700 CEUs: 3.2

Overview

This 4-1/2 day course teaches the student to configure and use the Data Historian software to store, access, trend, and generate reports of historical process data. Students will be able to:

- configure the Data Historian and Historical Data Files
- perform manual and automatic archival of Historical Data Files
- retrieve data from archived files
- review data using tabular reports
- construct custom reports capable of calculations, and produce the reports manually or at scheduled times
- trend historical data on a PROVUE Console
- display data on workstation in plot format with DH-Plot
- configure- data entry forms & enter data in DH

Operator Training: PROVUE Console-Based System Operator for Continuous Processes

Course 5180 CEUs: 1.4

Overview

This 2-day course uses lectures and hands-on workshops to provide an in-depth overview of the PROVUE Console in continuous process operations. Students who complete this course will be able to:

- manipulate various control point operating parameters to operate the process
- respond to process alarms
- monitor process performance and view process responses to tuning changes
- optimize control system responses to process dynamics
- print console reports, summaries and screen copies

Operator Training: Operator Workplace Console Oper. for Continuous Processes

Course 5181 CEUs: 1.8

Overview

This 2-1/2 day course uses lectures and hands-on workshops to provide an in-depth overview of the OPERATOR WORKPLACE Console. Students who complete this course will be able to:

- manipulate various control point operating parameters to operate the process
- respond to process alarms
- monitor process performance and view process responses to tuning changes
- optimize control system responses to process dynamics
- print console reports, summaries and screen copies

5180 Operator Training - Train the Trainer

Course 5182 CEUs: 1.8

Overview

This 2-1/2 day course is offered in Austin, Texas to train instructors to teach operator training course 5180.

5181 Operator Training - Train the Trainer

Course 5183 CEUs: 1.8

Overview

This 2-1/2 day course is offered in Austin, Texas to train instructors to teach operator training course 5181.

Operator Training: PROVUE Console-Based System Operation for Batch Processes

Course 5280 CEUs: 2.1

Overview

This 3-day course uses lectures and hands-on workshops to provide an in-depth overview of the PROVUE Console in batch process operations. Students will be able to:

- manipulate various control point operating parameters to operate the process
- load and start batch recipes
- respond to process alarms and operator action requests
- monitor process performance and view process responses to tuning changes
- optimize control system response to process dynamics
- print console reports, summaries and screen copies

Operator Training: Operator Workplace Operations for Batch Processes

Course 5281 CEUs: 2.1

Overview

This 3-day course uses lectures and hands-on workshops to provide an in-depth overview of the Operator Workplace Console. Students who complete this course will be able to:

- manipulate various control point operating parameters to operate the process
- respond to process alarms
- monitor process performance and view process response to tuning changes
- optimize control system response to process dynamics
- print console reports, summaries and screen copies



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5280 Operator Training - Train the Trainer

Course 5282 CEUs: 2.1

Overview

This 3-day course is offered in Austin, Texas to train instructors to teach operator training course 5280.

5281 Operator Training - Train the Trainer

Course 5283 CEUs: 2.1

Overview

This 3-day course is offered in Austin, Texas to train instructors to teach operator training course 5281.

PROVOX Operator Console for Continuous Processes

Course 5184 CEUs: 1.8

Overview

This 2-1/2 day course uses lectures and hands-on workshops to provide an in-depth overview of the PROVOX OPERATOR CONSOLE. Students who complete this course will be able to:

- manipulate various control point operating parameters to operate the process
- respond to process alarms
- monitor process performance and view process responses to tuning changes
- optimize control system responses to process dynamics

PROVOX OPERATOR CONSOLE Transition

Course 5269 CEUs: 2.8

Overview

This 4-day transition course will concentrate on the hardware and configuration differences between the OWP or PROVUE Consoles and the PROVOX OPERATOR CONSOLE (POC). Students who complete this course will:

- use ENVOX to modify a standard OWP or PROVUE configuration for POC
- use the GRAPHICS STUDIO to create basic and advanced operator displays
- view and save information in the Event Journal for management reports
- use WINDOWS NT User Manager to create, delete, and modify users and user privileges
- modify the operator interface for Lock-down Station
- use PROVOX OPERATOR CONSOLE to control/modify standard process parameters
- install PROVOX OPERATOR CONSOLE software on Stand-alone and Networked consoles
- install and verify proper operation of all hardware components of a networked POC
- add workstations to an existing console
- configure the Network Switch
- setup hardware/software for a Backup Server
- use console resident tools and ENVOX diagnostics to troubleshoot console problems

PROVOX Operator Console for Batch Process

Course 5284 CEUs: 2.1

This 3-day course uses lectures and hands-on workshops to provide an in-depth overview of the PROVOX OPERATOR CONSOLE. Students will be able to:

- manipulate various control point operating parameters to operate the process
- respond to process alarms
- monitor process performance and view process responses to tuning changes
- optimize control system responses to process dynamics

PROVOX Continuous Control Configuration Using Control Desktop OWP

Course 5371 CEUs: 3.2

This 4-1/2 day course teaches students adv. configuration of the OWP Console and the IFC device used continuous process control.

- create/modify Cascade Loops, and Group Points using Control Desktop software
- ENVOX software- create Enhanced DCD's
- create Logic Control Points (LCP's) and their Function Sequence Tables (FST's) using CD software with ENVOX
- create/download adv. OWP configuration
- troubleshoot FST programs with Trace/Tune
- create adv. displays- ENVOX display editor
- create Console Reports