

**BROWNSON CONSULTING and
ERCES TRAINER Ltd PRESENTS**

In-Building Public Safety Communications (IB-PSC) NICET Level 1 & 2 Exam Prep Training

2-Day Hands-On Training

Place your company above the competition with NICET IB-PSC Certification. NICET is the only certification for ERCES installers that is meaningful, verifiable, and acknowledged by most fire code officials.

This course covers best practices for deployment and commissioning of the equipment used in Emergency Responder Coverage Enhancement Systems (ERCES) to prepare the student for NICET Levels 1 & 2 Certification tests. Includes hands-on time learning to use the essential test equipment that is necessary to properly test and commission ERCES Systems.

NICET IB-PSC Content Outlines - what students should expect to learn:

Level 1 candidates for NICET certification in In-Building Public Safety Communications (IB-PSC) apply fundamental radio frequency knowledge to install passive and active equipment per system design and manufacturer specifications, including:

- ❖ **Performing Rough Installation Activities**
 - Read and follow RF System installation documentation.
 - Install Cable (e.g. support, fire stopping, grounding, etc.).
 - Terminate cable.
 - Install passive equipment.
- ❖ **Performing Finish and Trim Out Installation Activities**
 - Install donor antenna.
 - Install active equipment.
 - Install dedicated annunciator.
 - Install battery backup (BBU).

Level 2 candidates for NICET certification in In-Building Public Safety Communications utilize radio frequency principles and equipment to conduct initial surveys, install, commission, and maintain in-building public safety communications, including:

- ❖ **Define the project scope**
 - Review and interpret project specifications.
 - Review and interpret project documents.
 - Understand and comply with project schedules.
- ❖ **Evaluating RF Signal Strength and Quality**
 - Measure RF signal strength and quality.
 - Troubleshoot issues that impact RF performance.
- ❖ **Perform Rough Installation Activities**
 - Test cable.
 - Validate passive equipment installation.
 - Verify electrical and grounding requirements.
- ❖ **Performing Finish and Trim Out Installation Activities**
 - Validate electrical and grounding installation.
 - Interface with fire alarm systems.
- ❖ **Performing Commissioning, Acceptance Test, and Maintenance**
 - Adjust headend and remote amplification equipment.
 - Test system alarms.
 - Test battery backup (BBU).

All students will receive a copy of the Complete ERCES Handbook as part of the tuition cost, a \$169 value.

All students will also receive a 10% discount on their NICET IB-PSC Exam fees.

Course Agenda:

- The NICET Certification Process
- Introduction to Radio Networks
- Project Planning, Construction & Lifecycle
- Codes & Standards
- Understand Radio Frequency (RF)
- Site Surveys & Test Equipment
- Understanding Distributed Antenna Systems (DAS)
- DAS Components and Construction
- Best Practices for Testing BDAs/DAS
- AHJ Inspection and Close Out Package



About Your Instructor



Register for classes at:

www.ERCSTrainer.com

Students that already have a personal copy of the Complete ERCES Handbook should bring it. Use discount code HANDBOOK to reduce the cost of tuition for students that will bring their personal handbook. If students wish to bring their own test equipment that's great. Must be portable and battery powered. Hand-held radios with RSSI reading do not qualify.

Your Instructor, Mike Brownson, has more than five decades of wireless industry experience, including 20 years of providing public safety in-building solutions, designs, products, and technical support. Mike has developed a wealth of knowledge which he enjoys sharing. Due to this experience, Mike was selected by the Safer Buildings Coalition (SBC) to complete the most important project that SBC has ever undertaken: writing the Complete ERCES Handbook. As the managing editor and contributing author of the Handbook, Mike looks forward to enhancing the competency of the industry professionals through his training program.

The typical 14 steps in the installation and testing of an ERCES:

1. **Contact AHJ & Radio Authority** - Gather requirements including frequency list, code base they follow, any additional requirements
2. **Site Survey / Baseline Testing** - Initial survey of floor plans, equipment locations, impairments
3. **Preliminary Design** - RF link budgets, initial antenna and cable layouts, initial bill of materials for quote
4. **Statement of Work** - Project requirements are clearly defined
5. **RF Survey** - Perform Signal Strength Measurements once structure is closed in
6. **Update Design** - Revise preliminary design & BOM based on results
7. **Pre-Construction Survey** - Installer walk-thru to validate cable routes & equipment locations
8. **Final Design** - Design is done using iBWave, think AutoCAD for RF systems
9. **Order Equipment** - Order equipment following AHJ approval
10. **Installation** - Install cables, antennas and active equipment
11. **Commissioning** - Set system gains; verify RF performance
12. **Retransmit Agreement** - Apply for retransmit agreement with the radio authority/FCC license holder
13. **System Acceptance** - Verify RF coverage performance, AHJ inspection and permit sign-off
14. **Annual Testing** - Verify the installation still operates as designed, alarms activate and battery is good