

General Training Suggestions

After introducing the concepts covered in the **KEY CONCEPTS** and **BASIC MENU OPERATIONS** of the Training Guide, you may wish to begin 'hands on' training with a small drawing task such as a standard detail or a company titleblock. The basic skills that will be learned should be demonstrated and reviewed prior to beginning the assignment.

In the case of a simple titleblock drawing assignment, the goal might be to achieve a familiarity with the following setups, commands and concepts:

Key Concepts

- Coordinate input
- New Reference
- Double Reference
- Find (snap) objects

Setups

- **REL**ative Distance
- Pen
- Color
- Work Layer
- Styles?

View Control Commands

- Zoom-in

- Zoom-last
- Display All

Draw Commands

- Running line
- Box
- Fillet
- Circle
- Place Single Text

Edit Commands

- Erase line
- Move text
- Change color, size, pen, or layer

Using this basic model, continue to introduce more complex assignments that build upon (and reinforce) previously learned skills.

Training Program Implementation Tips

Although training often represents only about 10-15% of the expenses associated with acquisition of any CAD software program, the proper implementation of an adequate training program is often overlooked. From a productivity standpoint, training is viewed as the most painful (read expensive) phase. Employee "down time" or "transition time" is rarely viewed in a positive light and most organizations are extremely anxious to see some return on their CAD investment. It is also, without a doubt, the single most critical aspect of the entire investment. Here are a few tips that may help you establish a more effective ongoing training program:

Encourage Autonomy

In the real world, most CAD users never seem to have enough time to explore any new software capabilities by pressing buttons and exploring new features and functions. Once a particular problem solving methodology is learned, users rarely attempt to replace it by experimenting with a new more efficient method. This is unfortunate since ARRIS usually offers a number of alternatives for accomplishing almost every drawing or editing task and some are clearly more productive (i.e. have fewer button picks) than others. Challenging users to experiment and explore different ways to accomplish training tasks can increase their self-confidence and allows them to be more creative in their problem-solving skills.

After an assignment has been fully explained and demonstrated, students should only be monitored to the extent that they demonstrate some minimal degree of success and/or express confidence in their ability to proceed. Shortly thereafter, they should be left unattended for a period of time. Most importantly, they should be allowed to make mistakes and to attempt to correct or recover from those mistakes. *They should be instructed to write down any problems they could not solve or any questions they have about alternative solutions.* This is an extremely important step in the learning process and progress will not be made until problems arise, questions are asked, and solutions are presented.

If necessary, students should be allowed to repeat any assignment until they feel comfortable that they are comfortably proficient with the skills that were required.

Caution: There is a fine line between encouraging autonomy and letting students become overwhelmed and frustrated. If the frustration level becomes too high, the learning experience will quickly become a negative one. Strive to make the first few drawing tasks simple enough to ensure early success.

Reinforce Office Standards

Additional assignments should gradually introduce new skills and, and at the same time, familiarize students with the way ARRIS is used within each unique organization. Drawing assignments should always be representative of real projects and strive to utilize actual company standards, styles and databases that have been developed using ARRIS whenever possible.



Practice Time

For every hour of instruction, there should be one hour of "guarded" system time allotted to each student so they can assimilate and practice new commands and concepts. Guarded system time can rarely be achieved without removing students from their normal working environment. Having to answer the telephone and respond to typical daily interruptions does not qualify as guarded system time. Unfortunately, this is luxury that is only afforded by the most technically committed organizations and is often ignored or dramatically reduced.

Attitude Is Everything

As a general rule, students who are familiar with other CAD applications learn faster than students who have no CAD experience, often times twice as fast. Drawing, editing, working on layers, saving

and loading drawings are concepts that tend to be common to all CAD applications. Sometimes, however, a high level of familiarity and proficiency towards a previous CAD application may act as an obstacle for learning a new CAD application, especially if the user is reluctant to be open-minded or broaden their CAD application repertoire. CAD users tend to be very loyal to the first CAD system on which they were trained. This initial reluctance usually disappears over time, especially if there are obvious productivity advantages in the new CAD application. Students with a good attitude and an open-mind usually come up-to-speed very quickly and are typically the among the most productive CAD users in the office.



"STAND BACK - MAKE ONE MORE UNREASONABLE DEADLINE AND I'LL EXPLODE THE DIMENSIONS!"

Working with *Challenging* Students

Some students, especially those who are familiar with other CAD applications, strongly resist learning a new CAD program. Often this resistance is diminished as specific timesaving features and benefits inherent in the new CAD program are experienced firsthand. For students who seem unusually concerned about *the way their other CAD program used to do things*, it may be useful to provide a brief demonstration of at least one or two highly productive ARRIS features in *real time* to help show that there is a *light at the end of the tunnel*.

For example, you may wish to perform the following steps as proficiently as possible using mouse motion (MCI) gestures and the *Match Entity* feature wherever applicable:

1. Select a pre-defined smart wall
2. Draw a 50' x 30' rectangle (smart wall box)
3. Select a smart door and set the door *offset* to 3"
4. Place 4 or 5 doors
5. Select a smart window
6. Select *Group* placement (with 1' offsets from wall ends)
7. Place Groups of 3 windows into opposite walls.
8. Move and delete a few openings
9. Flip a few door swings
10. Place a running dimension or two
11. Go to isometric view and extrude the walls and shade the image

With very little effort, this entire exercise can be performed in under a minute using ARRIS. If you've got another minute to spare, you might add:

12. Change all the smart walls to a different wall type, pattern and/or thickness
13. Widen a few window openings a foot
14. Go to isometric view and re-extrude the walls and shade the image again
15. Launch the 3D model into eZ Meeting and dynamically rotate and section it

The truth is, every CAD program contains unique and powerful features. Although it's probably not necessary to justify the reasons your office chose ARRIS over the *industry standard*, here is a brief list of some areas in which ARRIS truly excels:

1. **Fast** – With features like cursor drag, smart walls, right-click menu shortcuts, nested commands and double reference point, ARRIS users put drawings up on the screen faster than most CAD programs.
2. **Easy To Use** – Easy to create new line types, dimension styles, hatch patterns, wall definitions and repeated items from existing libraries and presets. Quickly modify default settings to match your company's standards.
3. **File Sharing** – Handles large, distributed projects right out of the box. Allows dividing and sharing of work among project team members. Utilizes a unique *one-layer-per-file* scheme. Provides *Standards* directory for seamless sharing and updating of office standards.
4. **3D Database** - Seamless integration of 2D and 3D. Full editing in any 3D view.
5. **Customizable** – Create your own custom menus and commands using a compiled macro language and the manufacturer's source code.
6. **Focused Specifically On Architecture** – The oldest, continuously manufactured Architectural CAD software program in the U.S.

Food For Thought

When asked why AutoCAD is more popular than ARRIS, a former Sigma marketing executive responded, "Well, McDonald's sells a lot of hamburgers but it's not exactly my idea of fine dining". ...'nuff said.