Austin N.C., Inc.

G-POST / CAM
Products & Services

APT Automatically Programmed Tools

The Austin N.C. APT (Automatically Programmed Tools) System is a software tool designed to simplify the process of preparing the input data necessary for controlling NC and CNC devices. This APT system has a JAVA based graphical user interface (CIMpro) that makes it easier than ever for users to create and modify their APT programs and process them though both the APT system and the postprocessors.

Generates CL Files

APT is an easy-to-use, high-level language for creating generalized NC tool motion. APT generates a series of cutter location points that define the cutter path. This APT-generated cutter path (CL file) serves as input for another program called a postprocessor, which generates NC program or tape-punch files to drive-specific NC and CNC devices.

State-of-the-Art Features

APT complies with ANSI X3.37 standards, including extensions such as CASE and LOGICAL IF. In addition, a Lathe module accommodates turning operations with simple machine-shop terminology. Through user requests and innovative design, APT has been continually enhanced to provide the state-of-the-art features required in today's complex manufacturing environments.

Surface Machining

Surface Machining is accomplished using a variety of features; RLDSRF (ruled surface), BSURF (Boeing Surface Routine), FMILL/APTLFT, quadric definitions, and sculptured surface routines are some of the features available for use in generating tool paths for non-analytic as well as analytic applications.

Simplifies Repetitive Programming

The APT processor has functions and programming aids to simplify the logical requirements of repetitive and family-of-parts programming. These features, functioning much like FORTRAN, include program flow control statements such as IF, JUMPTO, DO and CASE. The parameter-passing MACRO capability and the FILE I/O function provide the tools required to implement your family-of-parts programming.

Lathe Sequence

The LATHSQ (lathe sequence) statement is used to program a series of motion statements. LATHSQ allows nested geometric definitions, computations, post-processor commands, predefined APT geometry and scalar values or variables. The LATHSQ processor generates cutting motion based on six commands: TURN, TAPER, FILLET, FACE, CORNER and BORE. With the cutting type specified as right- or left-hand internal or external, the LATHSQ processor can make assumptions that relieve programmers from having to specify many details. Furthermore, it will not allow cutter movements that conflict with the specified cutting type unless specifically requested, an important safety factor in programming lathes.

Threading Sequence

The THRDSQ (threading sequence) statement is a simple and convenient method of programming a threading operation. With a description of the required thread, the THRDSQ processor will generate motion commands for internal and external threads, right- and left-hand threads, tapered threads, variable-pitch threads and multiple-start threads.

Automatic Roughing

The UTURN (automatic roughing) statement provides a simple means of programming lathe-roughing operations. UTURN eliminates the need for individually programming the many moves required to rough out a given area. Instead, the user merely defines the boundary of the area and UTURN automatically generates all the intermediate required moves. UTURN provides many optional features that give the programmer greater control over as operation to tailor the output for site-specific needs.

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Features

- Available for Windows and UNIX operating systems
- IBM APT/AC syntax
- UNIAPT syntax
- 75 geometric definitions for point, lines, circles, planes, cylinders, cones ellipses, hyperbolas and spheres
- 3 general conic definitions
- 3 loft conic definitions
- 2 quadratic definitions
- Torus definition
- 10 vector definitions
- 10 matrix definitions
- Model tool-motion statements
- Multiple postprocessor execution (9 MACHIN statements)
- Symbolic tool statement
- New vocabulary definitions (create your own words)
- TRACUT/LAST (secondary cutter transformation)
- TRACUT/REVERS (reverse cutter transformation)
- Logical and arithmetic IF statements
- Multiple and computed JUMPTO statements
- CASE statement
- DO loops
- Tagged feedrates
- TEXT statement
- Character data statement
- Formatted printing
- CLDATA statement
- DATA statement
- 7 parameter cutter statement
- Sculptured surface routines
- BPOKET (Boeing pocket routine)
- BSURF (Boeing surface routine)
- FMILL/APTLFT
- RLDSRF (ruled surface
- MULTAX (5-axis tool vectors)
  - Fixed tool axis control
  - Variable tool axis control
  - VTLAXS (beveled cuts and draft angles)
- Unlimited table size
- Optional ASCII CL file
- 3D, 5-axis tool path verification
  - Tool shape definable
  - Motion simulation
- Lathe module
  - LATHESQ (generates motion with machine shop terminology)
  - THRDSQ (simplifies threading)
  - UTURN (automatic roughing)

Training

All Austin N.C. products as supported with regularly scheduled, hands-on training classes in a classroom environment. This gives you the advantage of the newer and more powerful system features of Austin N.C. APT. Advanced and refresher courses are also offered. These classes can be at your site or at our training facilities.

Consulting

Austin N.C.'s consultants provide services that range from on-site needs analysis to system implementations and postprocessor development. In addition, our consultants are available for on-site application improvement, integration and custom programming geared to your specific computing, NC programming and manufacturing environment.

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