Certified Comparator Products
A Division of Quality Vision International

eCAD Electronic Charts

No More Old Fashioned Overlay Charts

Features

- Create Charts directly from CAD files
- Virtual charts:
  - Appear on computer screen with part image
  - Rotate with glass screen rotation
  - Automatically scale with changes in magnification
  - Track worktable motion
- Tolerance zones are user defined for size, color, and type with global settings and edit capabilities
- Tolerance zone exaggeration capability for tight tolerance features
- Upper and lower tolerance zone may be independently controlled and colored
- Symmetrical or asymmetrical tolerance zones
- On CNC systems, drive part and coupled chart to critical inspection areas — coupled mode
- Standard electronic comparator chart templates included
- Save and store charts for future use
- Apply text notations to the screen or virtual chart
- Drag CAD model on the screen via a computer mouse
- *Take a Closer Look Mode* automatically rescales and centralizes chart to higher magnification
- Field of View circle indicator in CAD model clearly shows active inspection zone

eCAD - Virtual Charts direct from your CAD file

A high-tech version of a 100 year old idea

Actual image of virtual chart and part profile on a CCP comparator screen.

eCAD™ is an industry-changing innovation that sets a new standard for inspection and measurement with an optical comparator.

CAD-file-to-comparator interface

eCAD is a new electronic overlay package that is available only on specially configured Certified Comparator optical comparators. Made up of software and internal optical, mechanical, and electronic comparator hardware, it allows a CAD model to be used to project a “virtual chart” profile tolerance band onto the comparator screen. Unlike charts made for particular magnifications, the virtual chart is as large as the part itself. No matter the system’s magnification, or location of the part, the virtual chart is overlaid accurately on the magnified part image.

Using eCAD is easy

Simply move the part to the chart by eye, just like you would use a typical overlay chart. Or couple the chart to the part for multiple field of view inspections. eCAD displays tolerance zones as defined by the CAD file. Colors vividly show whether the part is in- or out-of-tolerance. Color bands are user-definable and customizable, providing a graphical display that can be read at a glance.

Part image and chart are linked

The eCAD virtual part is “coupled” to the part screen image in an instant. When you move the worktable, the projected CAD image follows the screen image. Drive the worktable around to inspect critical segments of the part to see if they are in or out of tolerance. Drive to pre-programmed locations semi-automatically in a production environment. Change magnification and the eCAD chart automatically rescales to the new magnification. Simply “de-couple” the virtual chart to measure angles with the comparator protractor, or to compare the part to the chart.

Save costs and time

- Eliminate manufacturing of overlay templates
- No more designing overlay templates. Simply download the CAD file to the comparator
- No more calibration of overlay templates
- No more chart storage
- No more replacing worn overlay templates
- No more cleaning

Checking shallow radii against CAD model tolerance band.

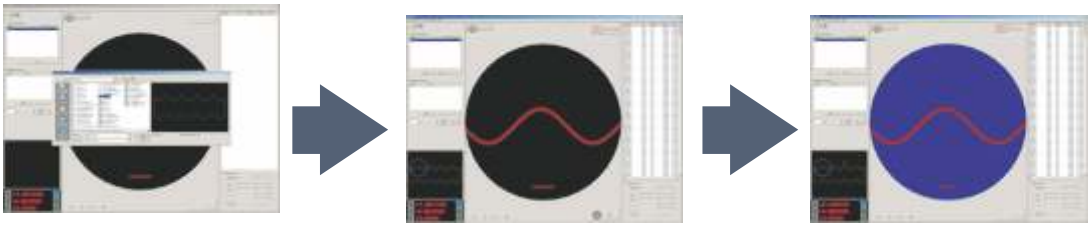
Optional CNC rotary indexer

QUALITY VISION INTERNATIONAL INC.

Technical Specifications

Supported CAD File Format	DXF (Gerber, Excellon, HPGL, PRT, EPS, DWG)
Availability	Specifically configured CC-14, CC-16, CC-20
Standard Electronic Charts	C-1 90° cross lines only; C-2 90° cross lines with 30° line in all four quadrants; MG-2 Micro-Gage cross lines with 30° Micro-Gage line in all four quadrants; 360° Radius Chart-Multi-Mag; ToolRoom Chart
Hardware	Includes trackball, lamp house mount for rapid positioning of computer pointing device at the comparator viewing screen (CCP floor model units only). Optional PSR Precision Stepper Rotary Stage
Digital Readouts Supported	Q-Check DRO, or, QC-300
Licensing	One machine license and dongle included per eCAD package
Computer Requirements	Minimum Pentium IV with Microsoft® Windows XP, dual monitor support, and serial interface
Units	English and Metric
CAD File Orientation	Rotationally; Mirror image horizontally; Mirror image vertically; Delete Entities; Material Side Identification
Tolerance Views	Translucent, color-coded; Silhouette; Micro-gage
Viewing Tools	Nominal; Nominal with profile tolerances; Unilateral or bilateral tolerances; Tolerance per entity
Inspection Modes	Manual moves; Automated moves with manual step-by-step indexing; Automated moves with programmed pauses; Recall programmed inspection projects; Chart gage rotation using motion
Calibration Modes	Field of View; Parcentrality; Keystone
CAD Alignment Methods	1. Visual Comparison - Manual alignment by eye of general part characteristics 2. Manual Orientation Features - Manual alignment by eye using a datum structure and skew alignment feature for a more precise relationship 3. Automatic Orientation Features (Automatic Edge Detection) - Using the power of EdgeScan™ (if equipped) to precisely align specific features
Optional Software Module	eCAD offline - Available for remote programming without interfering with a production machine. Has the ability to define tolerancing, import CAD files, create alignment methods, and program critical inspection areas from a remote location

The eCAD process is as easy as 1-2-3



1. Import (open) DXF CAD template
2. Mount the part and focus on feature of interest
3. Line up part image with electronic chart gage, & inspect/measure

Using eCAD is as easy as 1-2-3

Too big (part oversized)

Too small (part undersized)

Just right (part in tolerance)

Proudly Designed and Manufactured in USA

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