

PCX 3D

3D Graphical Excavator Monitoring

PROLEC
SAFETY AND EFFICIENCY AT WORK

PCX-3D Prolec's flagship excavator monitor brings together -

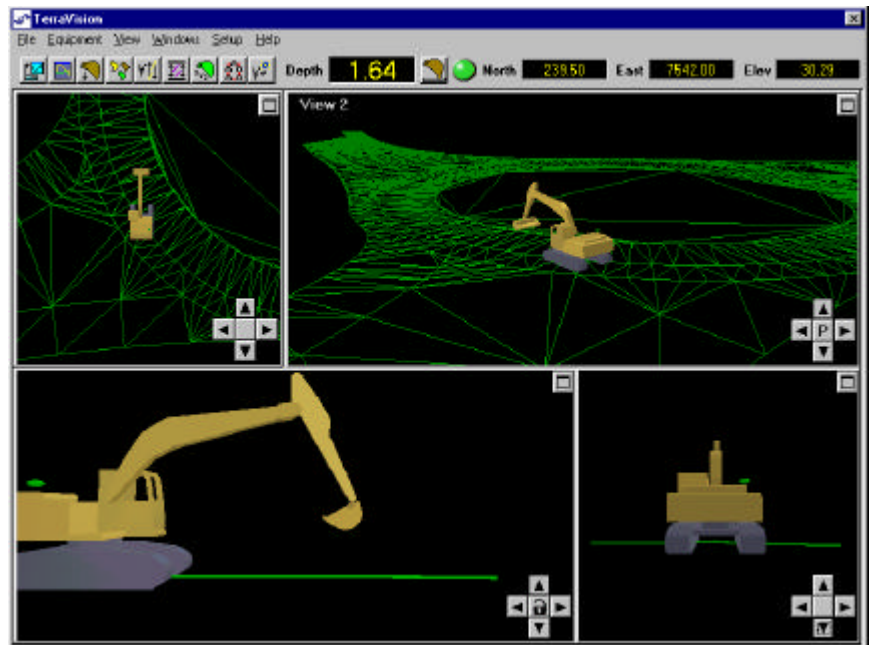
- RTK GPS Positioning
- 3D terrain models direct from user survey software
- Fast real-time 3D animation
- CAN 2.0B sensor technology

- in one seamlessly integrated, easily operated productivity tool

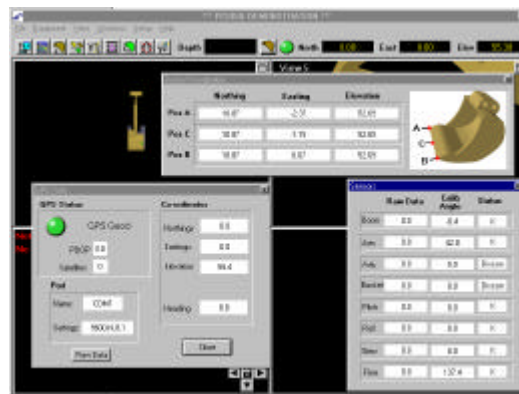
The **PCX-3D** excavator monitoring system gives the machine operator the ability to move dirt quickly and accurately. The 3D guidance system puts the site design directly on to the cab display. The operator then has all the information required to dig to precise elevations, slopes, and fill lines.

Actual 3D terrain models are loaded from an on-board flash card reader and displayed on the screen as either wire-frame or fully rendered target topography. The excavator is positioned on the terrain using vendor independent sub-centimetre RTK GPS. Prolec's CAN sensor package takes care of monitoring machine movements. Powerful mathematics allow vertical sections to be 'cut' through the terrain—these being displayed as longitudinal and cross-slope views. A top view can show chainage points to allow accurate machine positioning

Now complex ground works or sub-sea excavations can be carried out with no stakes, no lasers, and no guesswork. Whole projects can be loaded into PCX allowing accurate and autonomous excavation anywhere on the site.



Profiles extracted from complex 3D terrain wherever the machine moves



User friendly menus allow simple system configuration, while powerful diagnostic and maintenance tools ensure continued reliability and accuracy



PCX can be tailored to suit any operator or task, all windows are fully sizeable, and feature pan, zoom and track functionality. Numerical data can be added showing distance to target and local positional information. Context sensitive on-screen help is only a mouse-click away, all through the familiar Windows® GUI.

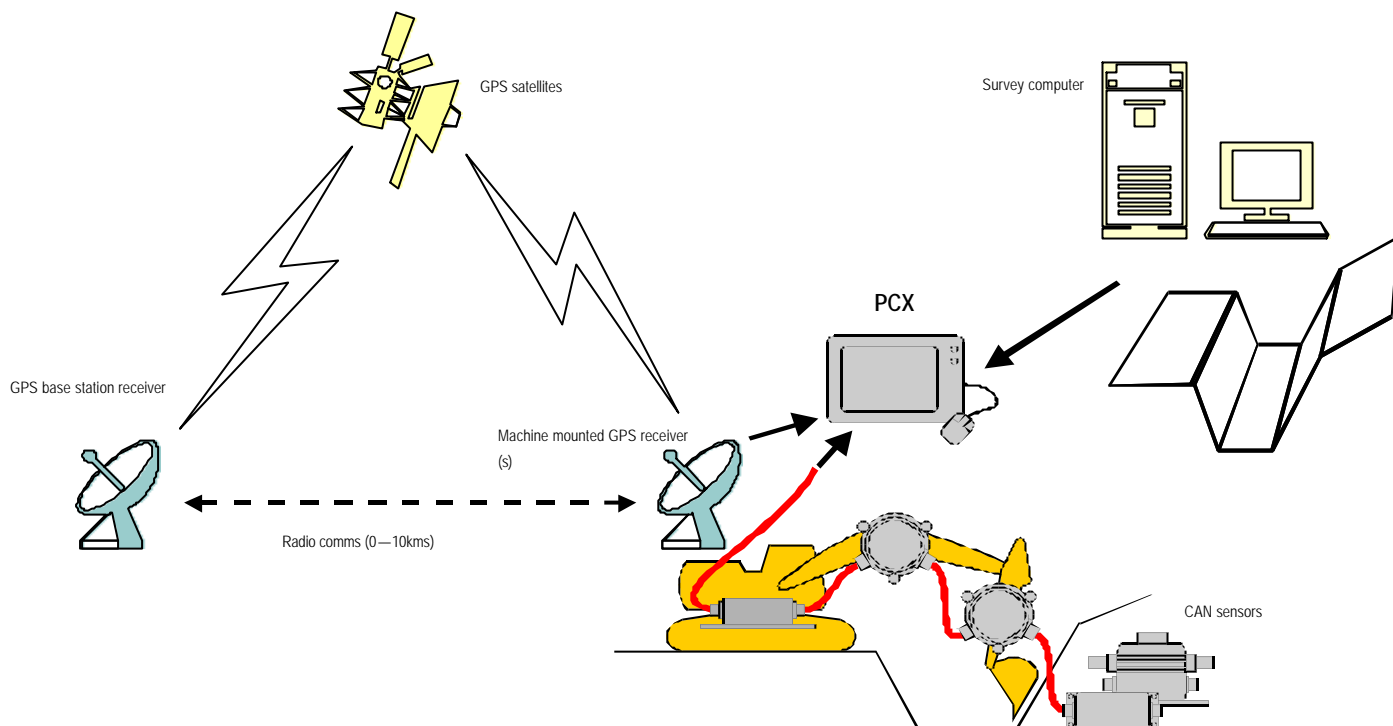
PCX 3D in action ... highway construction in boulder clay

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SYSTEM SCHEMATIC



SENSORS TO SUIT YOUR OPERATION

For standard land based excavation, Prolec AS7 solid-state angle sensors are ideal. Since their introduction in 2000, product reliability has been outstanding. Mounted on the boom, dipper and bucket linkage (and the intermediate boom of a hydraulically adjustable boom machine), each sensor is housed in a steel casing and then potted in resin, to provide protection from all the elements. Mounting shoes not only prevent damage to the sensors but also provide polarised location to allow for sensor replacement without the need for re-calibration. For marine applications or when higher accuracy is required, Prolec recommends its AS8 encoder angle sensors. These can be supplied with stainless steel housings, gland connections and hydraulic hose protection for all cabling. Slew and platform tilt sensors are built to a similar high standard.

TECHNICAL SPECIFICATION

| | | |
|----------------------|--|----------------------|
| DISPLAY | SVGA (800 x 600) back-ill 32 bit colour LCD, optional 32 mount LED bar display showing proximity to target | stage hi-power frame |
| COMPUTER | Ruggedised and shock-mounted Intel Tillamook custom storage capacity | PC. 128MB RAM, 6.4MB |
| I/O | 2 x CAN 2.0B 2 x RS232 (GPS) 1 x USB (mouse, keyboard, flash card reader) | |
| VOLTAGE | +11 to +30VDC @ 3.0 amp max Reverse polarity protection Solid state re-settable fuses | |
| TEMPERATURE | Operating -20 to +50°C Storage -40 to +80°C | |
| ENVIRONMENTAL | Display and PC Sensors | IP65 IP67-68 |
| EMC | Exceeds EN50081-1:1992 and EN50082-1:1992 | |

MANUFACTURED BY

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