PC Configuration - ZX F

PC network configuration of the ZX3 / 4 following using a Windows Front End Pc and Beckhoff TwinCAT3 system running the back end for the whole machine.

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Summary

The ZX-E was superseded by the ZX-F format which upgrades the backend PC to a Beckhoff CX5210 and runs TwinCAT3. The saw and machining centre side are both controlled in one unit. A windows PC has an extended desktop with 2 screens, 1 on the saw side and 1 on the MH side

- A front end Pc is used to provide the user interface, which has a desktop split across two screens, one for each side of the machine. The front end software launches two UI forms, which has a slight downside in that two operators cannot use it at exactly the same time
- Uses a Gapton Computers or Netmatters supplied "CNC" machine
- A "Back End" Beckhoff PC is used to provide the PLC control systems, running TwinCAT3.
- Both PCs need to be on the same network
- Front end PC needs TwinCAT3 Engineering Runtime installed, which allows communication to TwinCAT on the back end PC, and installs the System Manager to allow configuration and diagnostics of the front end.
- The front end PC needs to have a "Route" set up to the Back end PC for TwinCAT to work
  All PCs have a network port and are connected through a 5 port switches located in the main cabinet, saw cabinet and a 3rd on the side of the MH machining module
- This upgrade coincided with the ZX4 Mk5 which has separate cabinets for each module, and the saw console has been replaced with a slimline pole and screen/keyboard to save space.

PC Naming

Front End	Back End	Optional - Diagnostic PC
Z0nn or Z0nnFE where nn is the build number	Z0nnBE where nn is the build number	F0nnD

> ℹ ...The Diagnostic PC is sometimes added to give a permanent desktop that can be connected via teamviewer. This allows remote real time diagnostics withvideo footage and TwinCAT3 System Manager

Folder Structure

Setup Files	Front End Software
*.mul and *.saw initialisation files	written in vb.net
c:\ddrive\	c:\multi\winmulti.exe

Location of folder structure of MH side can be changed in the local masterdir.saw. See https://stuga.dokit.app/wiki/Masterdir_File

> ℹ ...The default folder used is called "DDRIVE" for historical reasons. Some other machines have aBeckhoff PC as the front end which has limited HDD space. In this case, a secondary PC was set up for diagnostics / storage (sometimes referred to as the "Camera PC"). The DDRIVE was set up as a shared folder on the Camera PC to store all machine data and diagnostics, which was mapped as "D:\" from the front end

Cameras

The ZX4 Mk5 machine was supplied with cameras as standard. These are also networked into the machine system.