

HOW WE BOX-BUILD @ PRECISION



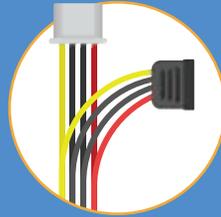
Box building or Turnkey assembly, sometimes also called 'Systems Integration' refers to the construction of a product that is ready for immediate use; no further assembly is required. It involves the complete assembly of all the various components including the mechanical (Plastic/Metal enclosures), electrical (cable harnesses/wiring looms) and electronic components (PCB Assemblies). The following image shows the steps we undertake at Precision to create a complete box build.



1

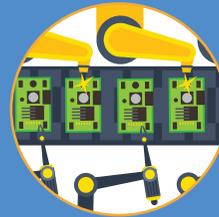
We supply custom enclosures of different sizes and grades of plastics & metals* based on your specifications & design

* Stainless steel, Aluminium, Cast Iron, etc



2

We provide complex wiring looms as required for all types of box builds



3

We supply the PCBs as per your specs and assemble them with the components outlined in your BOM



4

We test the PCBAs as per your supplied test requirements & instructions



5

We install the supplied firmware provided (as per your programming instructions)



10

We ship to your company or directly to your end customer



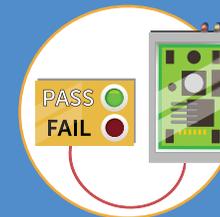
9

We package the final product



8

We attach any stickers and/or labels, if required



7

Once the build is complete, we test to ensure that the product performs as per your functional requirements



6

We build the final product by assembling the completed PCBAs, cable harnesses & membranes into the enclosures

FILES TO CREATE A HIGH QUALITY BOX BUILD



3D CAD model files



PCB files
Altium/Gerber



BOM files



Pick & Place files



Assembly drawings



Cable specs + drawings



Membrane drawings, specs + instructions



Enclosure specifications



Firmware + installation instructions



Test instructions

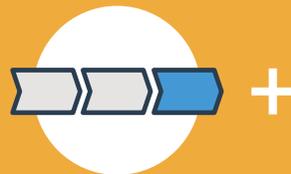


Label & packaging instructions



Sample unit

WE CAN HELP YOU WITH...



Setting up processes to help with the box build



Creating some of the above files & documents

BOX BUILD CHECKLIST

- PCB Files (Altium/Gerber)
Please include specs: Thickness, Copper thickness, Solder mask colour, Finish etc
- Well organised BOM of PCBA
Include Manufacture part numbers, Brands, Descriptions, Designators, Quantities, Footprint, Customer part number, etc*
**Please highlight your preferred suppliers + supplier codes, if any*
- BOM of Box Build (high level)
*Include Mechanical parts, Cables, Membranes, Screws, etc**
**Please include everything in addition to the PCBA BOM*
- Pick & place files
- Assembly drawings of PCBA
Include Reference designators, Component positions & Polarities
- Special instructions of PCBA, if any
Eg: Conformal coating, Potting, Serial #s, Test records, etc
- Programming firmware files
- Firmware + Software installation instructions
- Level of testing required + Test instructions
- Cable drawings + specifications for all cable harnesses and/or looms
- 3D CAD model of enclosures + Specifications
Include Colour, Finish, Material, IP Rating, etc
- Membrane drawings + Specifications, if any
- Detailed build instructions including assembly drawings for box build
- Labelling requirements + instructions
- Packaging requirements + instructions
- Sample unit or pictures of build