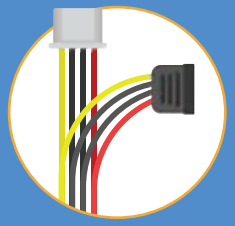
HOW WE BOX-BUILD @ PRECISION

PRECISION
ELECTRONIC TECHNOLOGIES

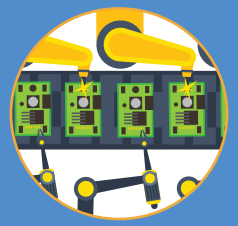
Box building or Turnkey assembly, sometimes also called '*Systems Integration*' refers to the construction of a product that is ready for immediate use; no further assembly is required. It involves the complete assembly of all the various components including the mechanical (Plastic/Metal enclosures), 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

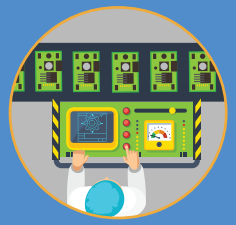
***Stainless steel, Aluminium, Cast Iron, etc**



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



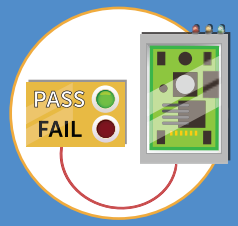
3 We supply the PCBs as per your specs and assemble them with the components outlined in your BOM



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

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

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



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

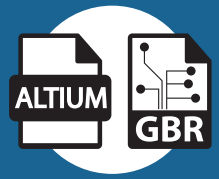
8 We attach any stickers and/or labels, if required

9 We package the final product

10 We ship to your company or directly to your end customer

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

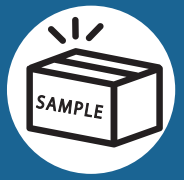
Membrane drawings, specs + instructions

Enclosure specifications

Firmware + installation instructions

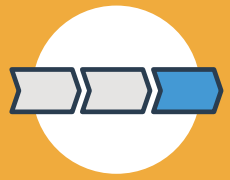
Test instructions

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

PRECISION
ELECTRONIC TECHNOLOGIES

W: www.precisionet.com.au **E:** contact@precisionet.com.au