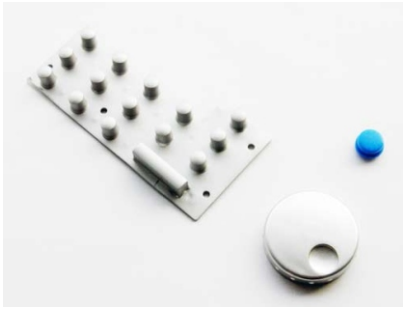
PRODUCT & USER INTERFACE DESIGN PROCESS(PDF)

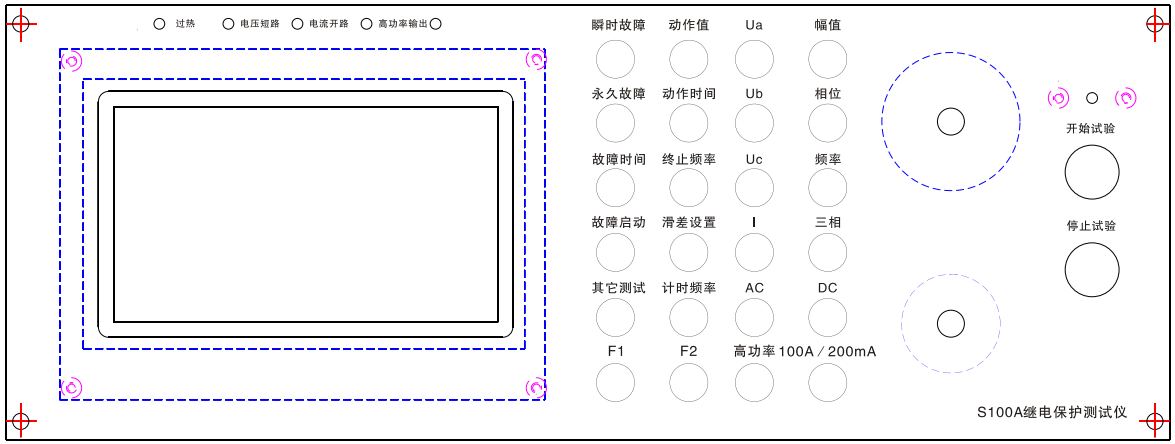
Test Instrument S100 Product Interface design(Sep,2005–Nov, 2005 Qin Lei)

Client: Electric Power System, e.g.Power Plant, Electrical Power Research Institutes

1. Actuality:now we have the materials below:



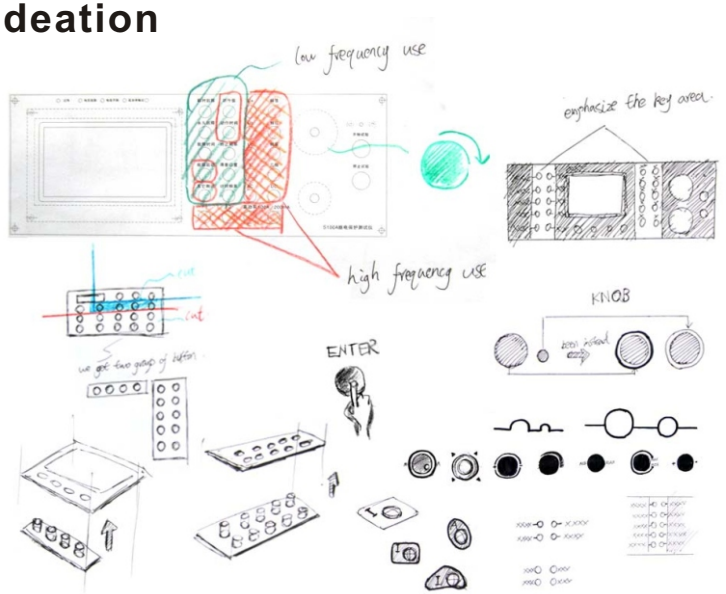
2. The original project I got from the MD designer.



3. Goal:

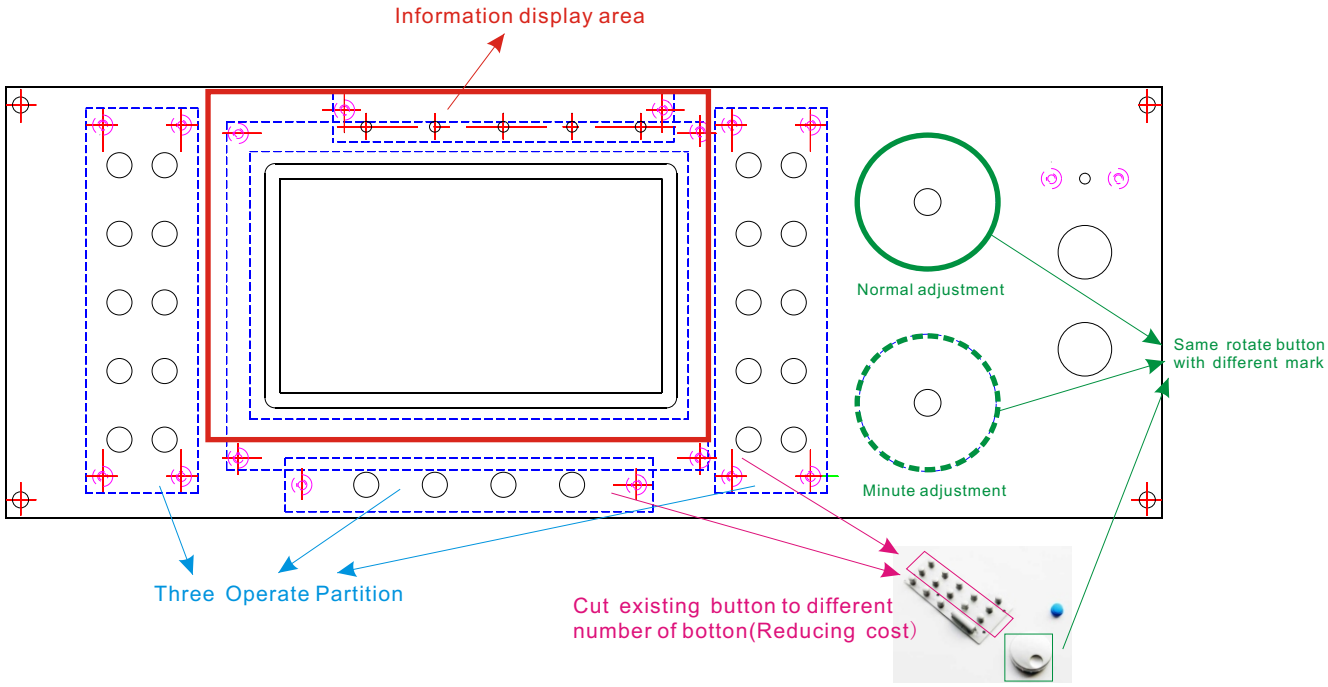
- Reducing cost, try to use the existing materials e.g. Try to use existing button to the new product instead of designing a new mould.
- Easy-to-use Operate Partition
- Component inside not conflict with each other after design

4. Ideation



5. Design Analysis

After I find the way to solve the problem, I give MD Designer the product's approximate size , then together with the MD Designer we would discuss with the R&D Engineer to develop the PCB.



6. Final Design

I should keep in touch with the MD Designer frequently to be sure that the product's size he drawed either in accord with my design or keep the component inside not be conflict. The one on the left is the final product at the market.

7. Improvement Design

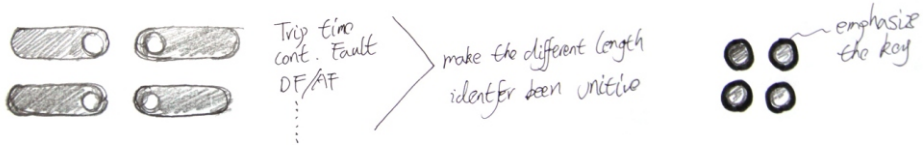
The product will be exported to abroad by company's Partner KIGG GROUP, So I should Improve the product to make it fit for the foreign version.

Then I find new problem on the left, It looked chaotic. I need to find a new way to solve this problem.

Problem

Goal:

- The product will be harmonious after the text is change into english
- Use the vivid color



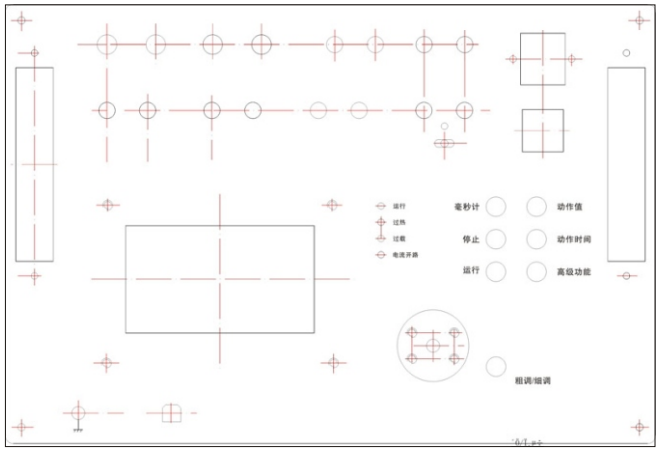
Design Analysis:

- Use figure to remove text mess
- Use different color to refine Partition

The final product at the foreign market

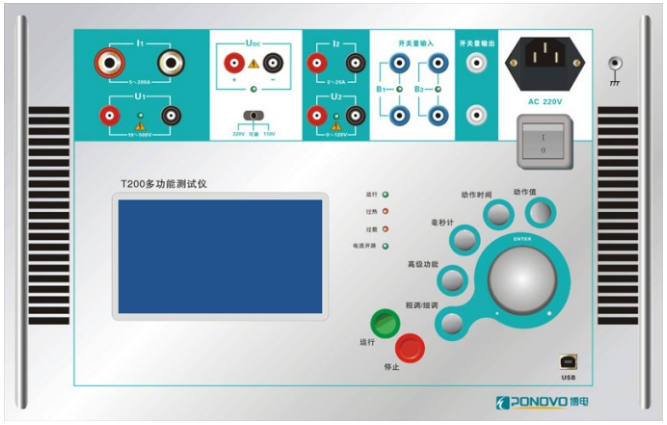
By the same way ,I designed lots of product Interface at Ponovo

1. The original project I got from the MD designer.



3. The final product at the market

2. Design the Product（T200） Interface(Dec,2006–Fbr,2007)



PW31 RELAY TEST REDESIGN

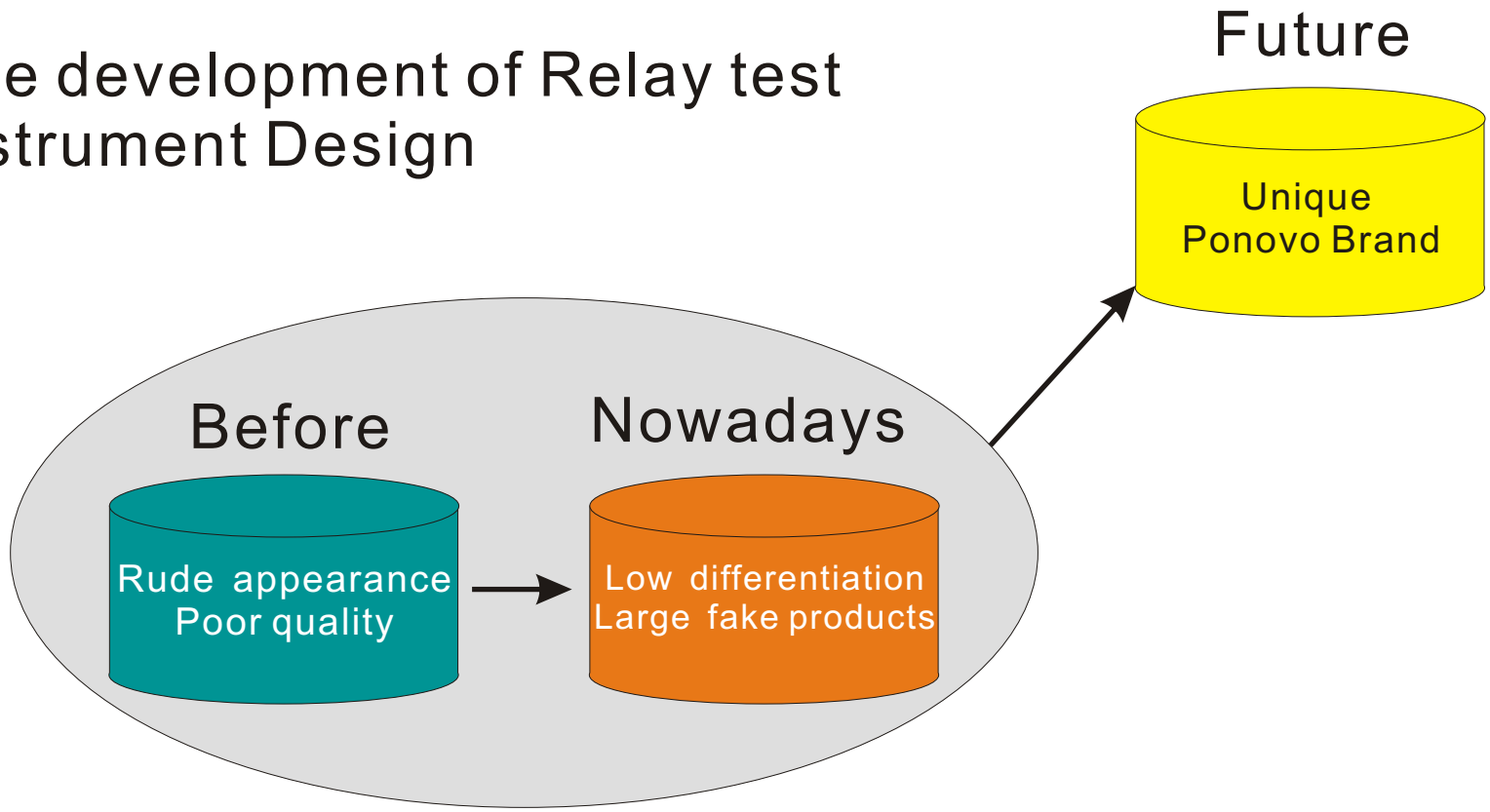
NOV, 2006 Qin Lei

Role in the whole process:

1.Product survey
2.Gather product requirements
3.Produce design solution for the Goal
4.Cooperate with MD and R&D designer to make design achievable
5.Assist in overseeing schedule and workflow

Background Analysis

The development of Relay test instrument Design



THE SIGNIFICANCE OF THE REDESIGN

1. Industrial design is an important measure to enhance product quality in all- round way.

2. Ponovo should continue to introducing products with advanced technical performance, and also introduce products with advanced design level.

3. manufacture products is proved to be successful. But with the emergency of large numbers of fake Products, Ponovo brand is no longer evident.

RRESEARCH

PONOVE FORMER PRODUCT

COMPETITOR PRODUCT

Survey result is mainly from feedback of feedback client,salesman, Technical support and R&D staffs, the result is demostrated as follows:

1. Competitors' products are all scrabbled up, but the design of optimized small keyboard and trackball leads the overall sense superior than us. Therefore, it is necessary to develop a series of new, overall-style products, completely change the patchwork and eventually change the inferior situation in competition.

2. Take the existing products' advantages, while the competitors' products are lack of distinctive features.

3. The design of handles brings more difficulties in the process of shipping and packing.

4. The product is more suitable for using on the table, but vertical usage is not 100% satisfied.

5. Product is too large and heavy.

Design goals:

1. Reinforce and build the Ponovo unique Brand.

2. Design Language : rational, accurately, hi-tech, noble.

3. Plug type design--Easy to service and upgrade.

4. Use touch screen instead of traditional button and screen.

5. Scalable, this structure platform applicable to other type of product.

6. Device can stand up (for the occasions without a table) can also be used flat on the table (for laboratory).

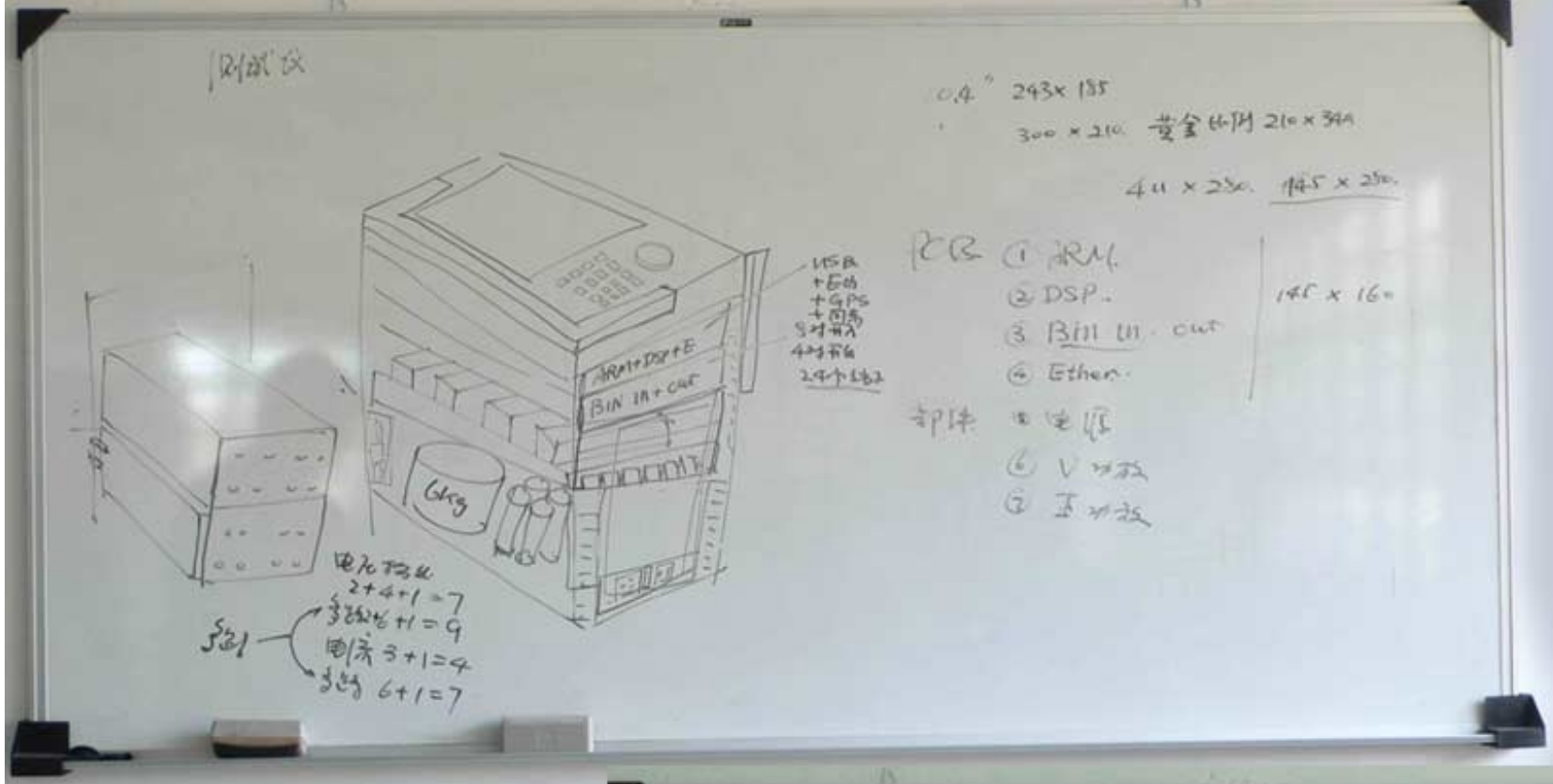
7. Size should be small, easy to carry around.

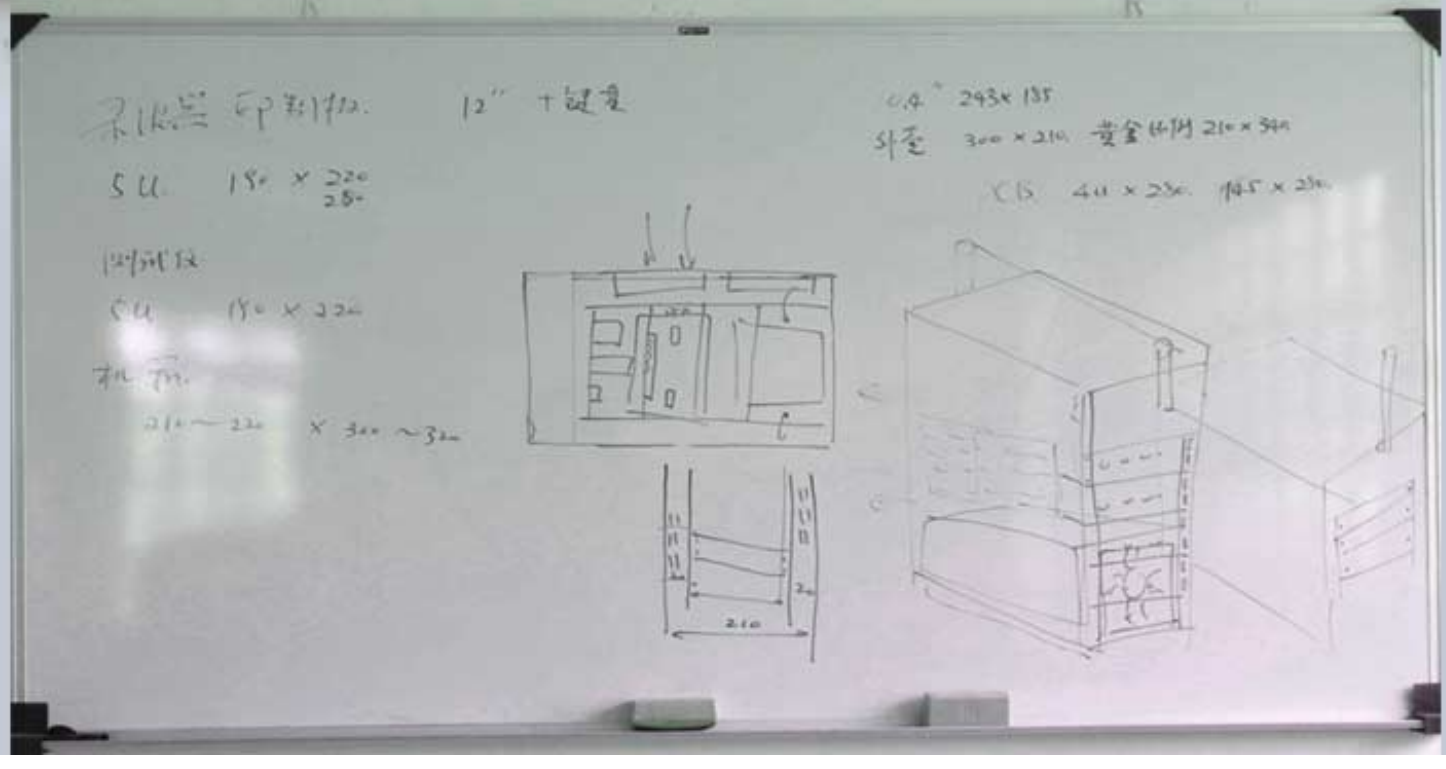
8. Structural strength must be high in order to adjust to complex sites; Holistic look, plug screws should not be visible.

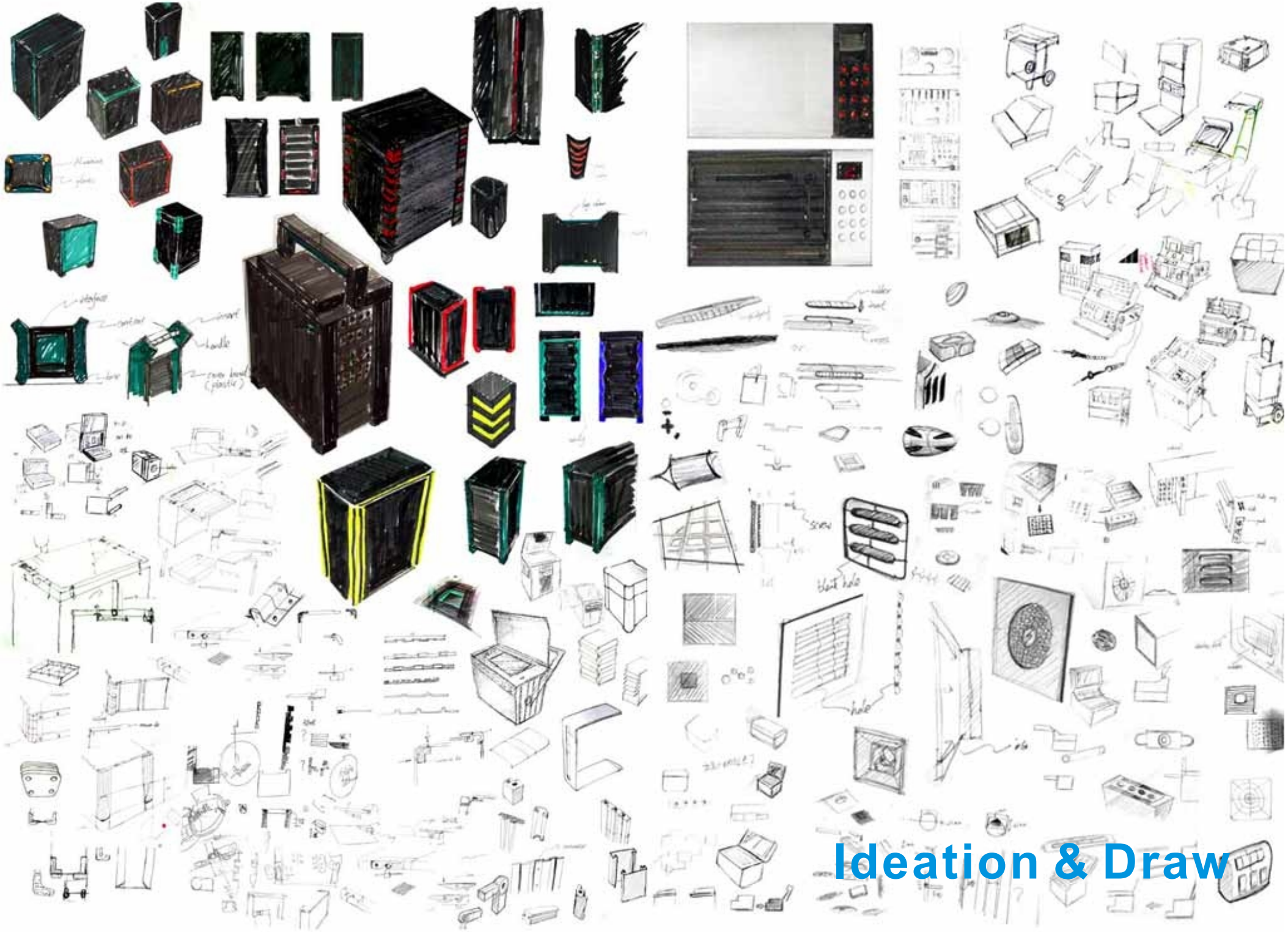
9. The anti-down, anti-press, Anti-dust, consider ventilation, at the same time not affect the appearance.

Product Development Discussion

ID+R&D+MD

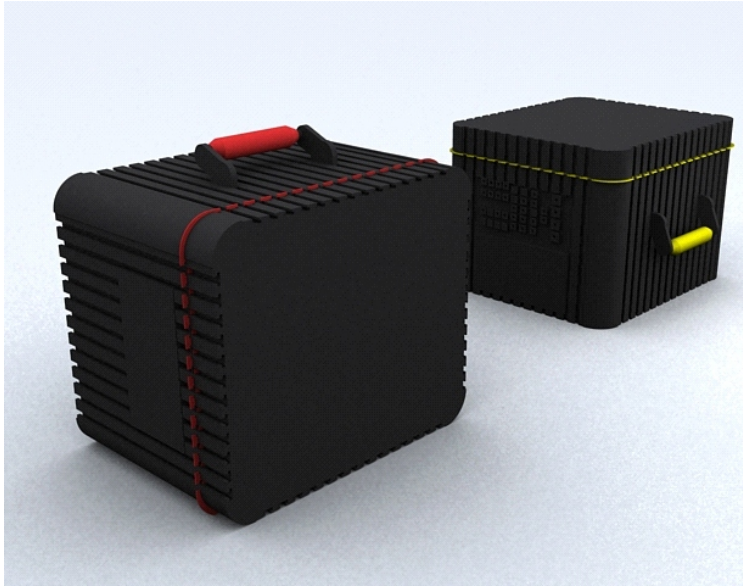





Ideation & Draw

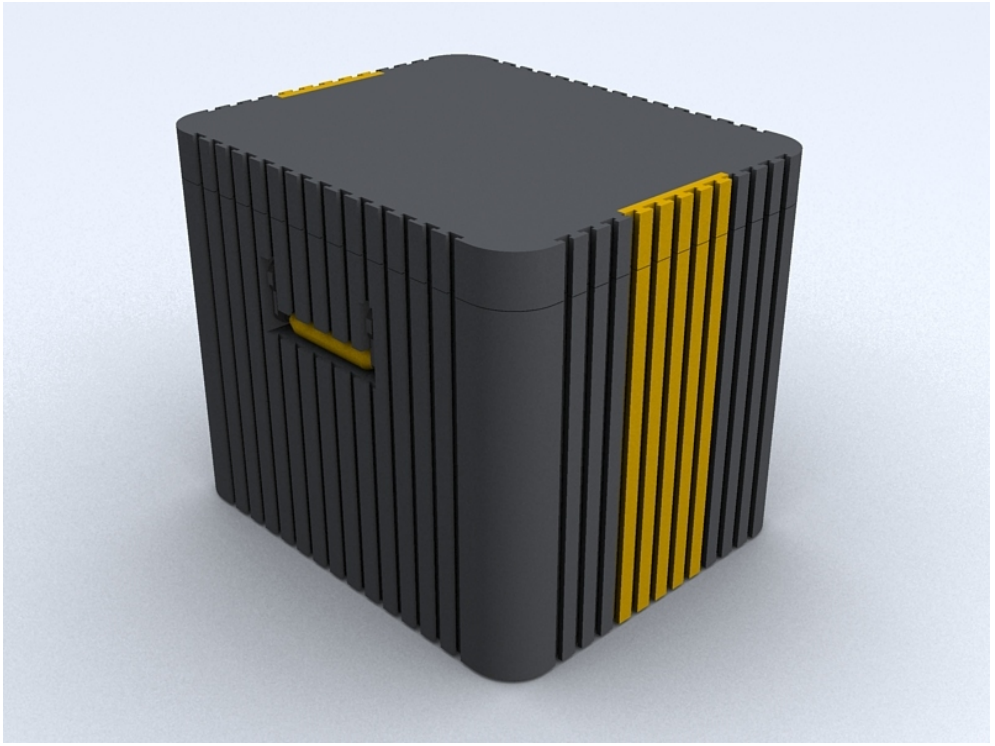
Product Development Process

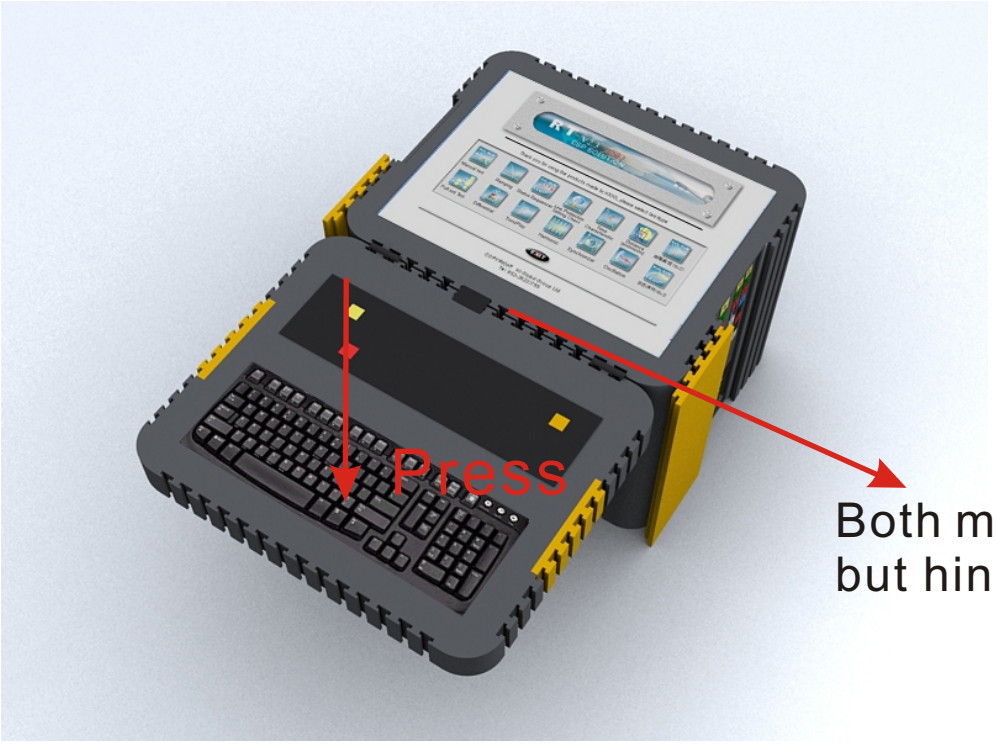
Early stage:



Not meet the horizontal requirements.

Middle stage:





Both meet the vertical and horizontal requirements, but hinges are easy to broken.

Later stage:

Hard manufacture
Higher cost

Hinges with complex structure

Final Solution

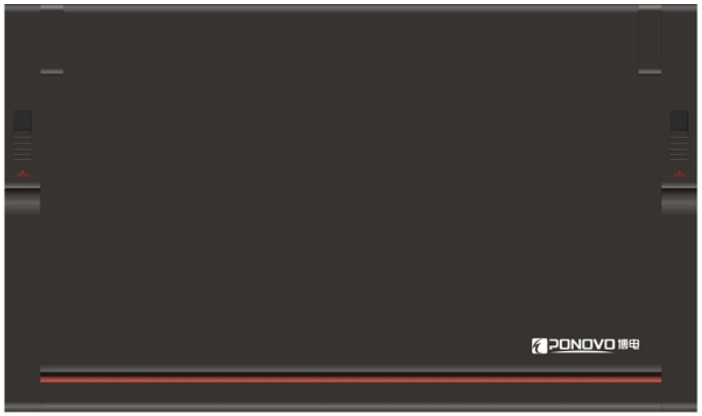
Design of handles make product easy shipping and packing

anti-dust function

Reasonable function zoning

Both meet the vertical and horizontal requirements.

Final Solution



Design Explanation

1. Good chassis scalability. Except the cover, it is able to add modules in three directions in length, breadth and height, thus easy to form a series of products.

2. The chassis is inspired form convex-concave. Multi-line design.

3. Modular plug-in structural design, easy to maintain and upgrade.

4. Both meet the vertical and horizontal requirements.

5. Reasonable function zoning, easy to operate.

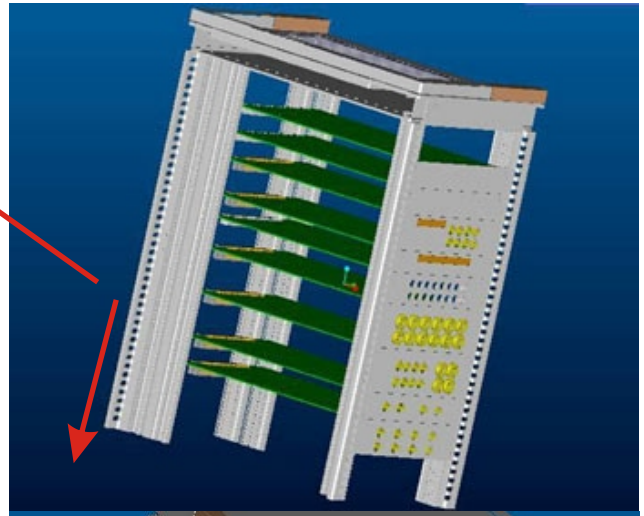
6. Panel for touch screen, keyboard and indicator light.

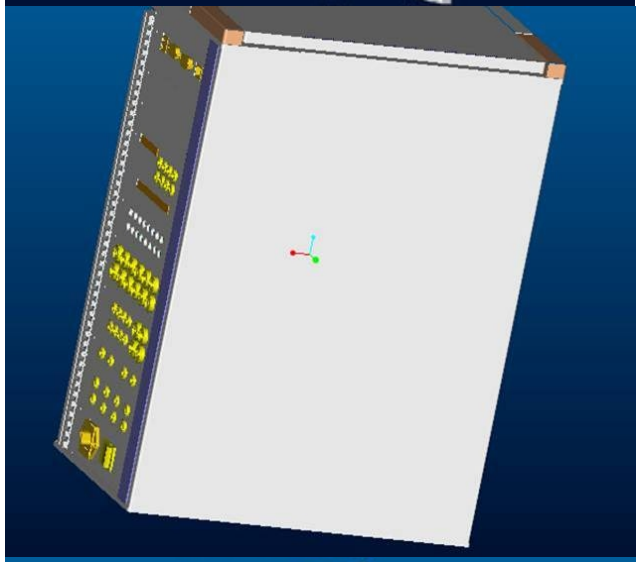
7. Side face for the terminal, connector and power socket, power switch; The other side for the ventilation holes.

8. Use touches screen and keypad, no external mouse and keyboard, thus the product integrity and reliability is better.

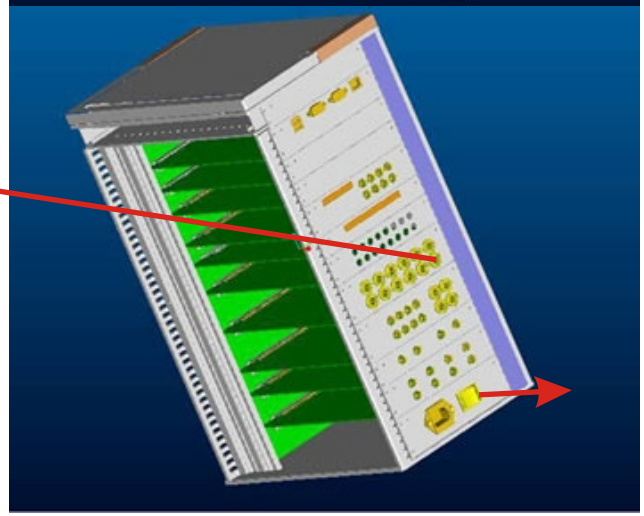
9. Chassis is reasonable structured and well sealed. In addition, it takes shock and comparison resistance, anti-dust functions into consideration.

Scalability





Modular plug-in
structural design



Design model

The instrument is heavy, so the handle is designed for one or two person to take it