

# Application Story of Vision Box / MAVIS solution

People always take medicine for disease or weakness. Though we can hardly tell if some tablets have any stains or rupture, but once we find that the tablet is broken or incomplete, we may unavoidably feel doubt with the accuracy of the dosage of the tablet, or even the quality. Especially people who have no professional medical knowledge will never swallow those imperfect tablets.



The perfection of tablets is deservedly become an important task of every pharmaceutical companies. They must have not only to ensure the effect of the tablets, but also to maintain the integrity of the tablets' surface, so that consumers would take the tablets contentedly.

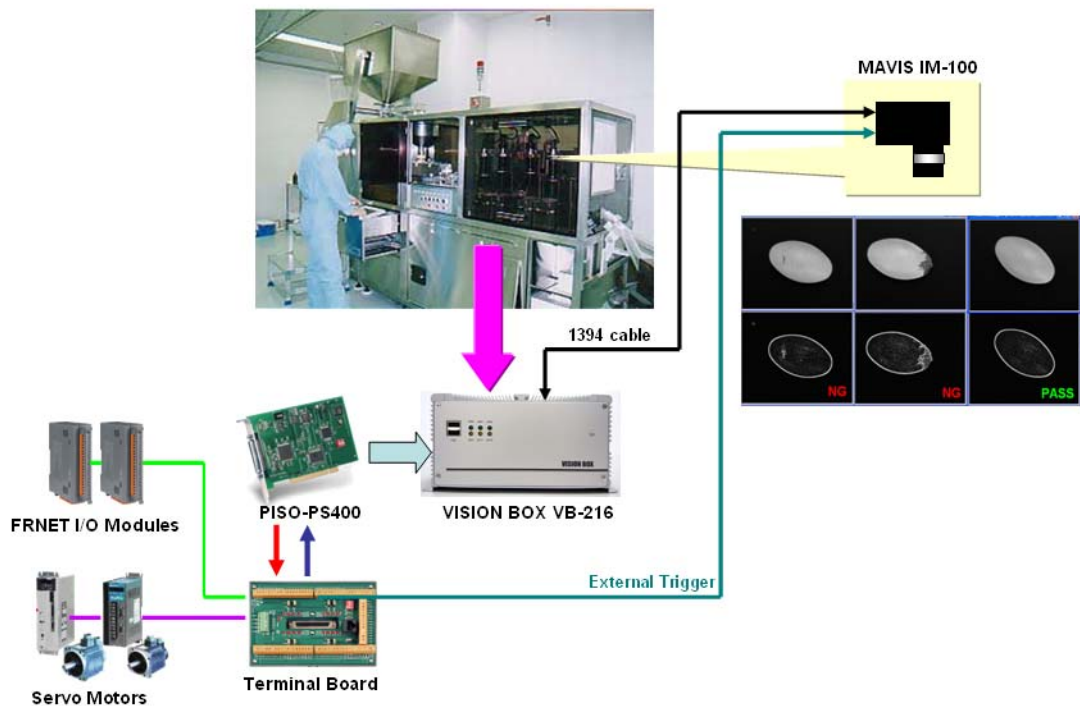
There are several factors that may cause imperfection of tablets In the process of producing them, including shaping, constriction, coloring and coating. Breakage, contamination, shape inaccuracy and blurred printing could happen during the process and make incompleteness of the tablet's surface. That is to say, the quality inspection of tablet is very important but sophisticated. And more and more pharmaceutical companies begin to look for more cost-effective alternative solutions owing to the high cost of inspection instruments.

The Vision Box/MAVIS solution provided by ICP DAS assembles MAVIS IM-100, an industrial camera, which can capture images with 100 frames per second. Operating with dual-core CPU of Vision Box, IEEE 1394 high-speed transmission cable and Windows XP Embedded OS built in the CF card, the maximum image capturing rate could reach 360,000 pictures of tablets per hour. It is costless, much more efficiency, more stable, and more reliable than other inspection systems.

Considering optics accuracy, the resolution of IM-100 is enough for current tablets, which are mostly smaller than 2cm. At least it can reach the accuracy of 35 $\mu$ m/pixel in horizontal and 45 $\mu$ m/pixel in vertical. Besides, MAVIS supports external trigger, it can capture images when triggered by a sensor, even the conveyer is not in a uniform motion situation. And also, the NG tablets could be removed from the conveyer by a nozzle connected by FRnet I/O modules developed by ICP DAS.



Furthermore, there are PCI expansion slots inside the Vision Box. Combining with motion control modules, such as PISO-PS400, the Vision Box can smoothly control the motion of the inspection system. To sum it up, a Vision Box combined with a MAVIS IM-100 will steadily finish and reiterate such sophisticated and complicated inspection work. And trigger signal would help to deal with some unexpected interrupt.



More and more successful cases appear after the success of the tablet inspection system. Vision Box/MAVIS solution is also applied to inspections of much more different precision components, IC packaging inspection, optical character recognition and measurement. Especially in such a period that the demand of undersized consumption products grows higher and higher, Vision Box/MAVIS inspection system becomes more and more indispensable.

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## Vision Box

## MAVIS IM-100



- Complete Fan-less cooling design
- Celeron M 1.5GHz or Core Duo 1.66GHz Mobile
- Low power consumption CPU
- 2GB DDR 266 or DDR2 533 memory
- 266x high speed CF card for Embedded XP/SP2 operation
- Built-in 2 ports 1394a (400Mb per port)
- Dual-port LAN supported
- 2.5" HDD supported
- One 32-bit, 33MHz PCI Bus supported



- Monochrome progressive-scan for on-the-fly applications
- Acquisition speed up to 100fps in full resolution
- AOI (Area of Interest) image acquisition
- Mirror image acquisition
- Build-in 8MB memory buffer
- Flexible electric exposure control
- Robust external trigger I/O interface supported
- Free SDK API for VC, VB, BCB and VisualStudio.NET
- Compatible with NI-IMAQ-1394
- Driver supports Windows2000/XP
- Free EZView Utility