

ABB TESSELATOR



Video Display System in the Cockpit of Industry

ABB
ASEA BROWN BOVERI



ABB Tesselator offers you higher quality, increased productivity and greater reliability

In the air it's vitally important to know what is happening at every moment – both inside and outside the aircraft. There's a lot at stake. Safety is paramount. The pilot must quickly be supplied with precise and easily comprehensible information. Thus the instruments are easily viewed and the controls are correctly positioned.

It's a matter of interaction between man and machine.

Now let's look at the process – from the control room. The same principles apply here as in the cockpit of an aircraft. A lot of information must be communicated, processed and presented. Any improvement in the operator's ability to monitor and control the process reduces the risk of incorrect decisions and decreases the response times.

The cockpit of industry is equipped with ABB Tesselator. The video display system that is designed as the information link between man and machine. With such characteristics as high readability, easy display design and rapid communication.

Tesselator offers the possibility of forming process displays that appear natural for the operator. The displays can range from overview displays to detail displays. Control

takes place from one or several customized keyboards.

The system is symbol oriented. One symbol, regardless of size and shape, is matched by a single code. This means that the process display requires less space in the host computer and the amount of data communicated is reduced by up to 50% compared with other semi-graphic systems. This provides shorter response times for both the process and the operator.

Symbol orientation also means improved readability. Different symbols, sizes and colors can be mixed to emphasize important information. It's easy to design and change displays.

ABB Tesselator is more than just a video display system. It is an entire concept, which takes account of workplace design, work environment, furniture and peripheral equipment. Quite simply it represents a total view of Man-Machine communications. This is where the most efficient investment is. In a motivated and skilled workforce, who are satisfied with their work and have faith in their equipment. ABB Tesselator provides this workforce the necessary tools and means to greater productivity and increased reliability.





Important information should be seen

Look at the picture above. It is difficult to distinguish what is relevant and what is not. The same phenomenon can occur with a process display.

A quick glance should suffice. If not, then visual search and detection tasks will be inhibited, resulting in decreased comprehension ability and extended reaction times.

ABB Tesselator solves this by using variable symbol sizes, different foreground and background colors and blink functions. What is important is highlighted, and clearly visible, while other parts are presented as background information.

Any changes in the process are shown rapidly and clearly.

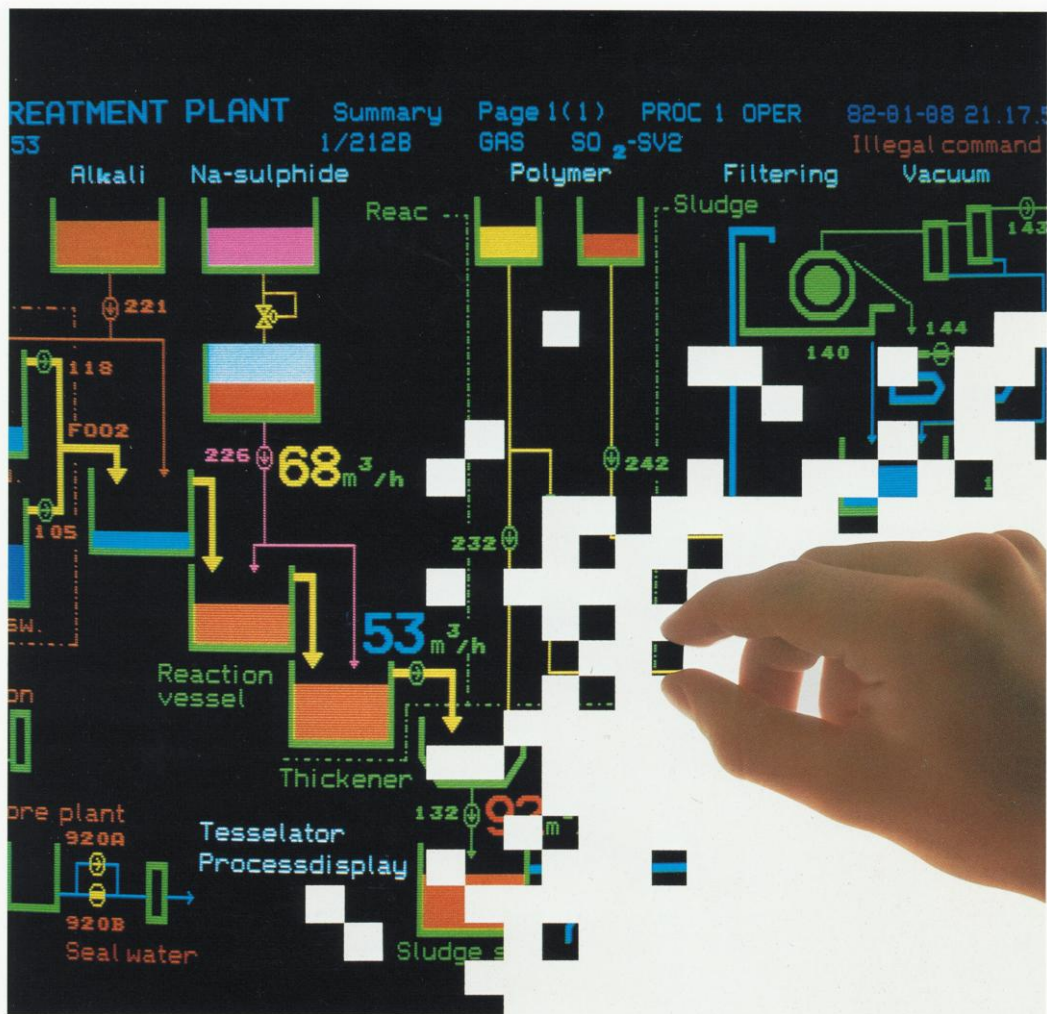
The ability to leaf through a hierarchical display structure gives the operator the ability to select details.

It is also possible to present symbols according to accepted norms, such as °C, m³/h, kW, H₂O.

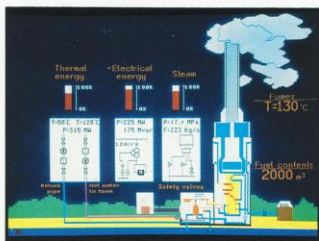
Other characteristics include proportional print-outs, mixing lower and upper-case letters, zoom, choice of typography, trend curves and histograms.

ABB Tesselator capitalizes on the functional characteristics of the eye and the brain – by using graphics.





Easy to design your own process pictures and symbols



Designing more than a hundred process pictures for a single process is common. This is equivalent to about ten man-weeks of concentrated work. ABB Tesselator substantially reduces this display design time.

We have developed a system in which the picture is designed directly from the keyboard. It's done rapidly, easily, and in particular, it feels more natural for the user.

Each character or symbol is written in succession. Regardless of size and shape, the cursor moves to the next empty position. Four different

writing directions can be selected. It's as easy to write in columns as it is in lines, with right or left justified text.

A unique character generator makes it easy to form your own symbols to fit your own standards.

The system also features a wide range of editing functions, including the choice of different work areas. This permits you to work on selected parts of the display - delete, copy or change color, without affecting other sections.

ABB Tesselator is a system that simplifies picture formation and describes reality.



We give ergonomics a front seat

Adapt the man to the machine?
Adapt the machine to the man.
Adapt the system to the man and to
the machine.

In the development of systems it is most efficient to apply existing expertise concerning individual system components. By regarding Man as a component in the system and applying ergonomic expertise, it is possible to design a system which

utilizes Man's resources to the fullest without overloading the man psychologically or physically, and ensuring that the objectives of the system are achieved.

Good ergonomics mean efficiency. The Tesselator concept features a basic underlying pattern of ergonomics. All the way from the system's analyst – the display designer, to the operator. The brochure

you are now reading is devoted to describing this basic underlying pattern.

A pre-requisite for creating satisfactory communications between operator and computer is a powerful system for display design. The unique character generator and the excellent editing possibilities are examples of the information-ergonomic characteristics of the Tesselator. Training in maintenance, display design and communications



adaptation are also included in the total ergonomic package.

Custom-tailored keyboards and symbols, presentation of information in histograms and trend graphs makes the operator's work efficient and reliable. A complete symbol corresponds to a single code. This economizes on memory capacity, increases the communications capacity and permits reduced response time. Reduced response times, minimize the risk of operator



Power transmission



Water treatment



Marine and offshore

stress, and provides a faster basis for important decisions.

Total ergonomics means that the Tesselator concept goes all the way to include the design of the individual operator's workplace: furniture - lighting - peripheral equipment.

Now the interplay between Man and machine can begin. With ABB Tesselator.

Tesselator is used in most industries

The system's flexibility is reflected by the number of systems supplied to various industries serving numerous applications, with different peripheral equipment and various host computers.

That ABB Tesselator is operating within most industries and applications is confirmation of our expertise and experience.

Confidence that we have built up together with our customers and which has given us a well-based know-how in the field of monitoring and process control. A secure economic base for further development.



Food industry



Paper industry



Keyboard DSIH 90



Keyboard DSIH 70



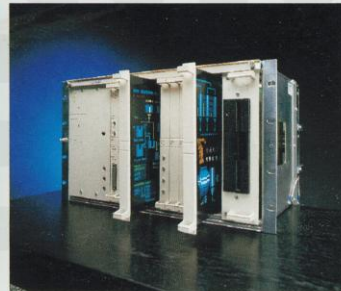
Trackball DSIH 71



Hard copy DSEP 4542



Tesselator 7800



Tesselator 8010

ABB

ASEA BROWN BOVERI

Asea Brown Boveri is a world leader in electrical engineering comprising 200 000 employees, some 800 companies operating in 140 countries. The main business segments are power plants, power transmission, power distribution and industrial equipment. Access to modern control and supervision systems like ABB Master is of strategic importance to the group in deliveries to customers in these segments.

Business area ABB Process Automation, which belongs to the industrial equipment segment, designs, manufactures and markets ABB Master as well as systems for industrial force measurement and complete electrical equipment for industrial plants.

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