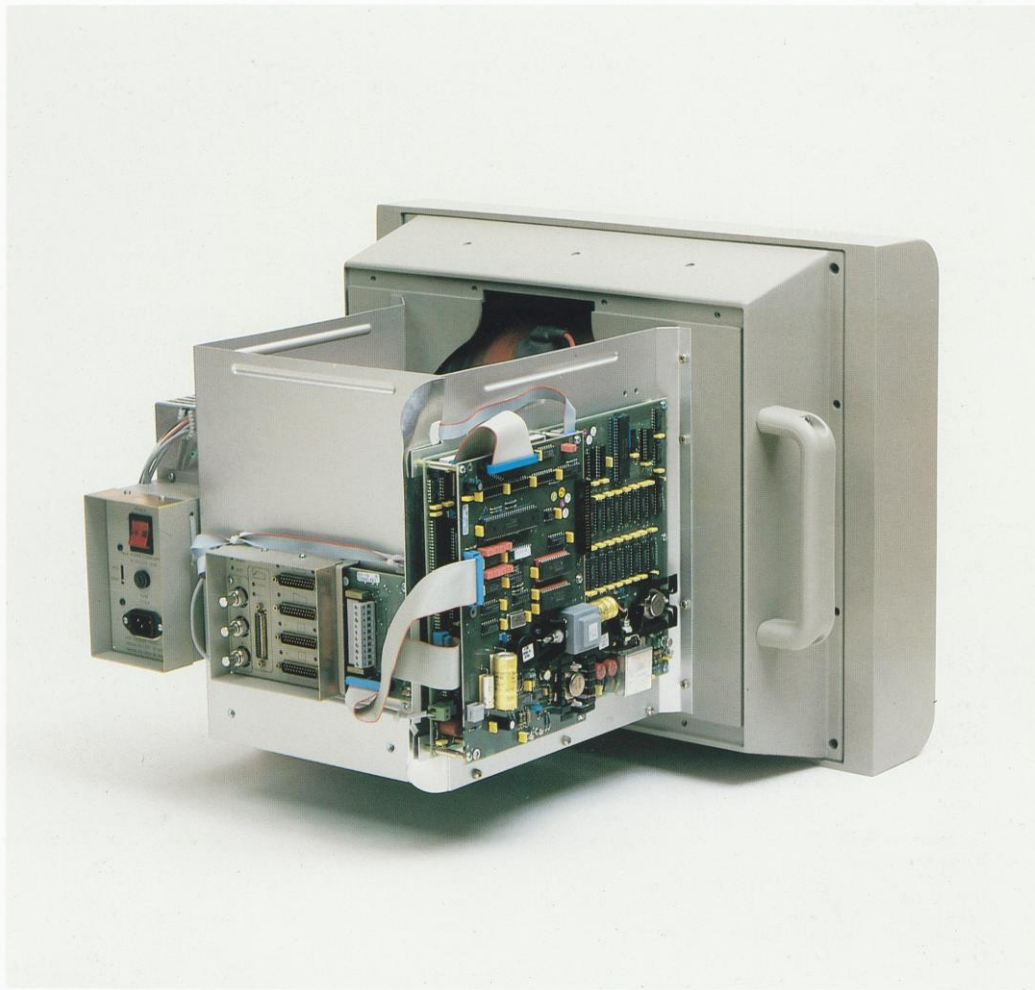# TESSELATOR 7850/7855

870311

The color graphic system for your process

ABB
ASEA BROWN BOVERI

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Control close to the process

The ABB Tesselator is now moving outside the control room, to get closer to the process. With ABB Tesselator your process supervision becomes more flexible and efficient. The Tesselator 7850/ 7855 stand alone unit is cost effectively used in two ways. Firstly, locally connected to your process control computer. Secondly, remotely connected if so demanded by your process control strategy.

In both cases the ABB Tesselator gives you improved control, increased reliability and the best ergonomics. Simplicity, speed and reliability are the hallmarks of the entire Tesselator concept. It even starts at installation. No video amplification and no coaxial cables are required. All communication is asynchronous. Simplicity, speed and reliability continue.
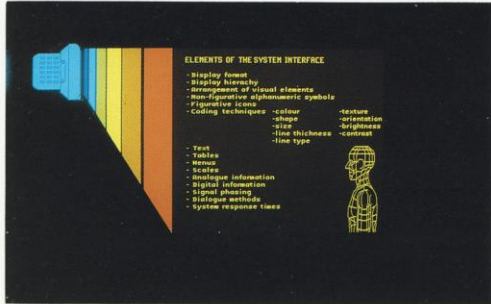
Hardware

In the ABB Tesselator 7850/ 7855 stand alone unit, high technology is combined with simple mechanical design. This gives you extremely high reliability, simple installation and decreased life cycle cost.
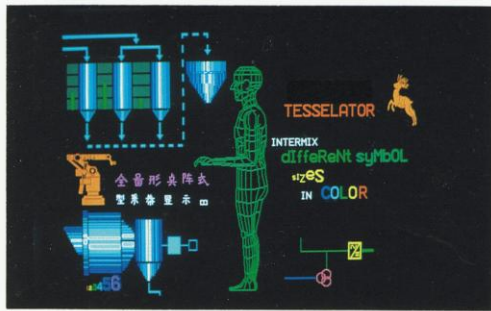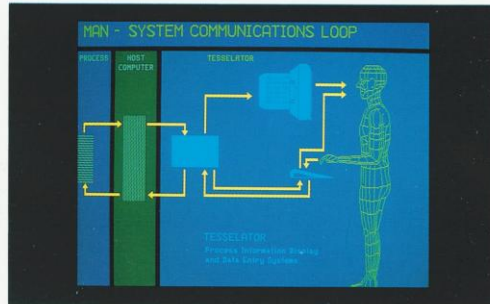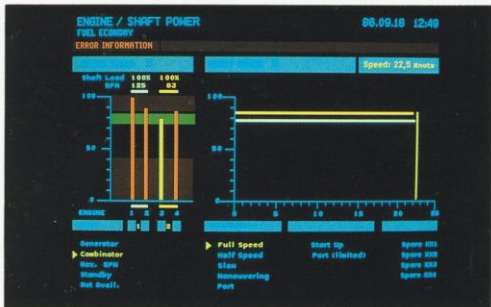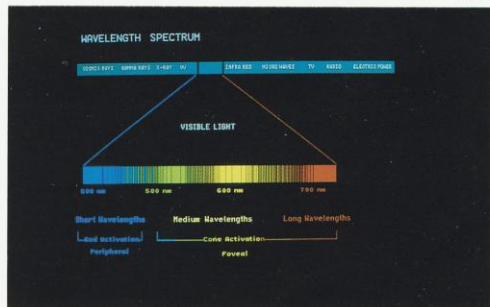
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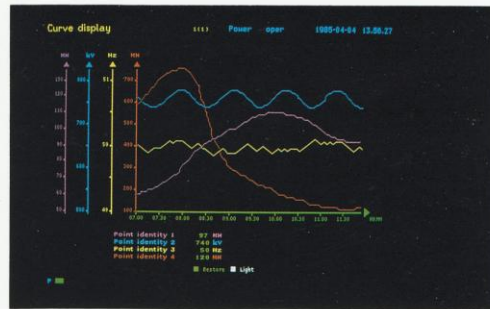
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Visible advantages

The Tesselator 7850/7855 gives a good picture of your reality. It describes and visualises your process in a way no other display system can.

Simplicity

It normally takes a long time to design process pictures. Several months is not unusual. Tesselator has considerably reduced the time it takes to compose or to alter a picture. This is done directly from the keyboard with a number of editing functions and, with immediate feedback of the result on the screen.

The Tesselator 7850/7855 offers you almost limitless possibilities to create your pictures.

Speed

The picture is made up of symbols. As opposed to other systems each symbol, regardless of size and shape, is represented by one single code. This means that Tesselator pictures require much less space in your host computer. The amount of data to be transmitted is greatly reduced and you therefore obtain faster communication between the host computer and the display system.

Static pictures are stored locally in the system and this gives an even shorter response time.

Reliability

Production stops and disturbances in the process are extremely expensive. Great demands are therefore placed on the operator and the supervision system and specifically the interplay between man and machine. The ABB Tesselator together with the operator gives the greatest possible reliability in your process control system.

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Paint your own process

With the Tesselator 7850/7855 you have the ability to creating an accurate and clear representation of your process. You have plenty of building blocks. Different text and symbol sizes, blink functions, display of dynamic information in the form of trend curves, histograms, bargraphs, the opportunity to rapidly change from overall to detailed pictures etc. You have an entire "paintbox" at your disposal. You can paint with the correct colors which arise in the process. The paintbox contains a palette with 512 different colors.

You can choose 16 different foreground and 8 local background colors. With your Tesselator it will be easier to recognize the different parts of the process. It will become easier to supervise and control. High readability is ergonomically sound. The process pictures in the ABB Tesselator are clear and lucid. ABB Tesselator – the very best process supervision with a reliability which gives higher productivity and security.

Functions
– Four writing directions
– Five symbol sizes
– 64 background colors with two intensities
– 8 local background colors
– 16 foreground colors (512 colors to choose from)
– Four blink functions
– Various line thickness
– Trend graphs
– Histograms and bargraphs
– Hardcopy (Tesselator 7855)
– Menu handling
– Communication parameters set via the keyboard
– Local display storage
– Scroll (also in window)
– Plus a number of functions to simplify display design

Data

Input power
90-138 VAC, 45-65 Hz
184-265 VAC, 45-65 Hz

Power consumption
Max 130 W

Processor
Motorola 68008, 10 MHz

Communications
Asynchronous:	Point-to-point
	2 channels
	Tesselator 7850
	3 channels
	Tesselator 7855

Tesselator 7850/7855
Computer
Data link:	RS 232C (V.24) or
	KM-1 modem
Max distance:	15 m (RS 232C)
	900 m (KM-1) at
	9.6 kbit/s
Data format:	8 bits
Selectable speeds:	1200, 2400,
	4800, 9600 and
	19200 bits/s
Parity:	Odd, even or none
Data link protocol:	ADLP-10

Keyboard
Data link:	RS 232C (V.24)
Max distance:	15 m
Data format:	8 bits
Speed:	4800 bits/s
Parity:	Even

Tesselator 7855
Hardcopy
Data link:	RS 232C (V.24)
Max. distance:	15 m
Data format:	8 bits
Speed:	9600 bits/s
Parity:	None

CRT
Size:	20″
Gun:	In-line
Dot pitch:	0,31 mm

VDU controller
Based on custom LSI

Picture data
Size:	350 × 262 mm
Tessel:	112 × 240
	(vertical × horizontal)
Pixel:	336 × 720
	(vertical × horizontal)
Characters:	Up to 56 lines ×
	120 columns

Frame rate
50, 60 or 61 Hz,
non interlaced

External monitor
Video signals:	RS 170, RGB
	Negative sync.
Max distance:	50 m, 150 ft

Colors and blink
A choice of two formats via menu handling:

1. 16 foreground colors
   1 blink function (on/off)
   8 local background colors

2. 16 foreground colors
   3 blink functions
   4 local background colors

Foreground colors
– Selected via menu handling from a palette of 512 colors.

Blink functions
– Rapid, non symmetric and two-color blink.
– Each foreground color can be defined with multi-phase blink.

Local background colors
– Selected via menu handling from a palette of 512 colors.

General background colors
– 64 colors with two intensities.

Cursors
Two independent cursors, visible and computer cursor.

Analog pictures
Up to 16 trend graphs and an unlimited number of analog indicators (bargraphs type) can be shown simultaneously.

Symbols
Up to 896 symbols.
Customer defined symbols are possible.
Standard symbol set:
– 5 sizes of alphanumerical characters
  Various language versions available
– 3 sizes of industrial/electrical symbols

Local display storage
Up to 100 pictures can be stored in a 90 kbyte RWM.

Dim function
To reduce the light intensity on the screen (50%).

Fields
Unlimited number of computer and operator fields.

Area protection
Any area on the screen can be protected.

Dimensions
Size (W × H × D):	540 × 450 × 542 mm
Weight:	30 kg

Environmental data
Temperatures, operating:	+5 to +40° C
storage:	−40 to +55° C
Relative humidity:	10 – 80%

MTBF
|	
Picture tube:	15.000 hours at zero beam current (dark picture), cathode current and high voltage on
Electronics:	30.000 hours at 50° C

Peripheral equipment
Keyboard	DSIH 70, display design keyboard
Keyboard	DSIH 70F, operators keyboard
Keyboard	DSIH 90, customer programable keyboard
Trackball	DSIH 71
Hardcopy	DSEP 4544, 7 color (4 ribboned) or other types with JX80 protocol (Tesselator 7855)
Monitor	DSIM 2619, 16″
Monitor	DSIM 2919, 20″

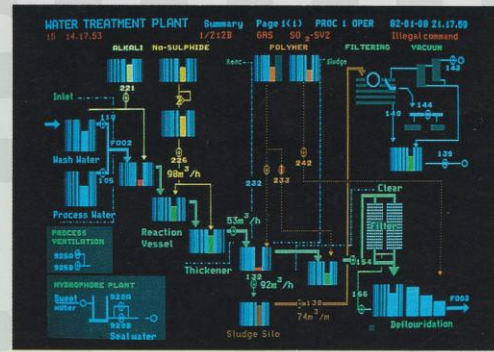# ABB Tesselator is your process window
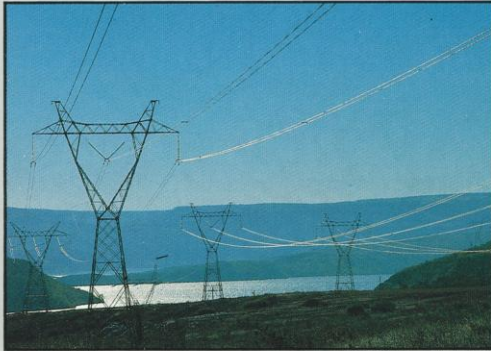
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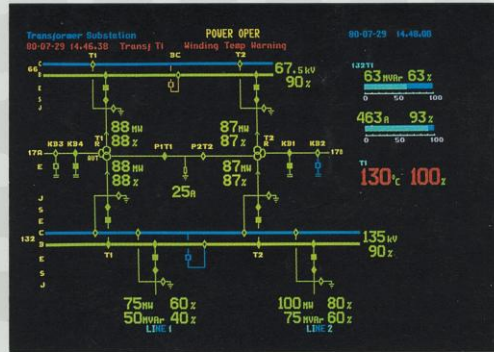
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The ABB Tesselator is used in many different applications e.g.

- Power
- Chemical
- Refinery
- Furnace control
- Industry control, food
- Industry control, steel
- Railroad power distribution
- Gauging control
- Power and gas distribution
- Distributed process control
- Water treatment
- Paper mill production control
- Mining industry
- Marine and offshore

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Asea Brown Boveri is a world leader in electrical engineering comprizing 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.

Specifications subject to change without notice

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