

























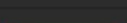











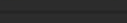





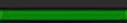





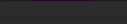





























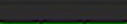





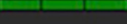





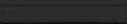











VBC Server

Search		Streams					BRIDGE 	
	Thumb	Name	Face	Services	Alarm history	Micro	MW	
		NRK1 HD	IPTV					
		NRK2 HD	IPTV					
		TVNorge HD	IPTV					
		Al Jazeera English HD	IPTV					
		arte HD	IPTV					
		ZDF HD	IPTV					
		NRK Super / NRK3 HD	IPTV					
		DELUXE MUSIC	IPTV					
		MPTS	IPTV					
		Cartoon Network	IPTV					
		Nasa TV UHD	IPTV					
		NRK P1 Stor-Oslo	IPTV					
		UATV	IPTV					
		UHD1 by ASTRA / HD+	IPTV					
		NRK P2	IPTV					
		Nickelodeon	IPTV					
		QVC UHD	IPTV					

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VBC SERVER

VBC SERVER & ELEMENT MANAGER

The VBC offers central management and status displays of all monitored services, providing a window into the performance of television distribution operations. The VBC gives unprecedented insight into network health and the flow of all types of media streams throughout the network, and is a server-side software application that allows multiple Bridge Technologies monitoring probes to be accessed from a single, web-based user interface.

Key elements in the VBC include: configuration management and stream performance comparison at multiple points, worst-performer identification, drill-down analysis, stream and service status monitoring, graphical alarm historical data-display with the Microtimeline™ technology, Visio™ map import with active alarm indication, trend graphing up to two years, SNMP multi-destination trap forwarding, alarm logging SLA report generation and aggregated alarm trend graphs. The VBC also has a built in MAP view, allowing the user to geotag probe locations.

The VBC Live feature transforms the VBC controller into a fully customisable video mosaic. Operators can configure their own layouts, streaming multiple live feeds simultaneously – each overlaid with real-time alarm indicators.

RDW (Remote Data Wall) is a display technology controlled by the VBC, allowing you to create live data dashboards of network activity, enabling potential problems to be rapidly identified and appropriate corrective action taken.

The VBC server runs in a Linux Ubuntu-based environment that can be installed on standard server hardware, or in a cloud environment. The VBC client is simply a web browser pointed towards the VBC server, and can run on any client operating system.

When managing a large digital television system often consisting of hundreds of monitoring nodes there is a need to be able to aggregate information and monitor the overall system status from a central location, as well as offering features such as user login with access restrictions.

Deploying the VBC Controller as part of the system enables the user to view the system status at-a-glance and the VBC's drill-down functionality makes it easy to locate the problem source and examine details on the devices themselves. Through the VBC the user can perform tasks such as building a hierarchical equipment view, view aggregate alarm and status messages, get aggregate status per TV stream and compare measurements across devices. The VBC supports alarm export for integration into an NMS system.

Sites, Users and Nodes

The Bridge probes offered in the VBC are VB120, VB220, VB330, VB440, NOMAD, MDC and QTT Manager.

The VBC is structured around the concept of Sites, Users and Nodes. A Site is often a geographical location (Paris) or a logical network demarcation structure (Head-End-Ingest). A User is a user role defined by the admin user and could be anything. Users are given access to Sites. In this manner it is possible to deploy a single VBC instance and have multiple commercially independent entities accessing the same system. Nodes – or probes – are the physical monitoring points in the network and are organized underneath Sites.

The VBC server may be accessed by several users simultaneously. An administrator manages users and their access rights, and a user can only view information concerning sites that he has access rights to. A user with read-only access can only view alarms whereas a user with read/write access can alter equipment settings at the sites he has access to.

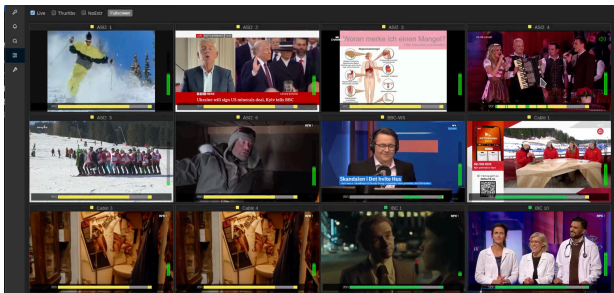
VBC Controller							
	Last9h	Now	I.F. Stream	#	Last9h	Now	I.F. Stream
LOGIN							
LIVE							
MONITORING							
BLADE ALARMS							
GRAPHICS VIEW							
STREAM VIEW							
SELECTED							
THEMES VIEW							
SERVICE VIEW							
MAP							
RDP							
RDW							
EQUIPMENT							
REPORTS							
EXT. REPORTS							
MAIN							
1			COF... 198.12	1			IPTV 48_KS_13
2			QAM 264 Mhz	1			COF... 556_DVB-T
3			QAM 268 Mhz	1			IPTV Al Jazeera English HD
4			QAM 305	1			Asocast-Deluxe DASH
5			QAM 306 Mhz	1			Asocast-Deluxe HLS
6			QAM 314 Mhz	1			Asocast-NRK 2 sec
7			QAM 322 Mhz	1			Asocast-NRK 2 sec HLS
8			QAM 330 Mhz	1			Asocast-NRK DASH
9			QAM 338 Mhz	1			Asocast-NRK CDN HLS
10			QAM 345 Mhz	1			Asocast-NRK CMAF
11			QAM 354 Mhz	1			Asocast-NRK SS
12			QAM 362 Mhz	1			IPTV info HD
13			QAM 378 Mhz	1			ASI AS12_1
14			QAM 410 Mhz	1			ASI AS12_2
15			QAM 428 Mhz	1			ASI AS12_3
16			QAM 434 Mhz (dun)	1			ASI AS12_3 - ASI-T2M
17			QAM 434 Mhz (dun/2/1)	1			ASI AS12_4
18			QAM 434 Mhz (dun/2/2)	1			ASI AS12_5
19			45MbaMUX_10	1			ASI AS12_6
20			45MbaMUX_11	1			SAT Astra German
21			45MbaMUX_12	1			OTT ATV_TV2 DASH
22			45MbaMUX_13	1			IPTV BBC World News Europe HD
23			45MbaMUX_14	1			IPTV Bloomberg
24			45MbaMUX_15	1			IPTV Cam
25			45MbaMUX_16	1			OTT Cam_Dash
26			45MbaMUX_17	1			IPTV Camera3
27			45MbaMUX_18	1			IPTV CartoonNetwork
28			45MbaMUX_9	1			IPTV Channel21
29			45MbaMUX_3	1			IPTV CBS
30			45MbaMUX_1	1			IPTV Comedy Central Austria
31			45MbaMUX_2	1			IPTV Das Erste HD
32			45MbaMUX_3	1			IPTV ddadest_1
33			45MbaMUX_4	1			IPTV ddadest_10
34			45MbaMUX_5	1			IPTV ddadest_11
35			45MbaMUX_6	1			IPTV ddadest_12
36			45MbaMUX_7	1			IPTV ddadest_13
37			45MbaMUX_8	1			IPTV ddadest_14

Stream View

The Stream View in the VBC is one of the most powerful and versatile dashboards available to the operator. It offers a per-stream alarm status view over the last 96-hours for all the streams monitored by all the probes seen by the VBC using the patented microTimeline™ technology. A Stream is a media stream carrying audio and video and can be an IPTV multicast, an OTT ABR stream or an RF Transport Stream. The user can drill down into each stream if alarms are shown for further details and eventually reach the detailed user-interface of the individual probes measuring on the stream in question. Inside Stream View it is possible to sort on alarm severity, stream type and custom defined stream groups. A stream group is just a collection of streams that the operator has defined and could be used to distinguish premium channels from other channels, as an example.

Thumbs View

The VBC contains a thumbnail view panel that presents all the available thumbnails extracted from all the probes presented together with a matching microTimeline™. The alarm state of each stream is indicated via a colored frame around the thumbnail. The thumbnail view allows sorting on alarm severity and filtering on stream group or individual stream name.



VBC Live - Turning Monitoring into a Video Mosaic

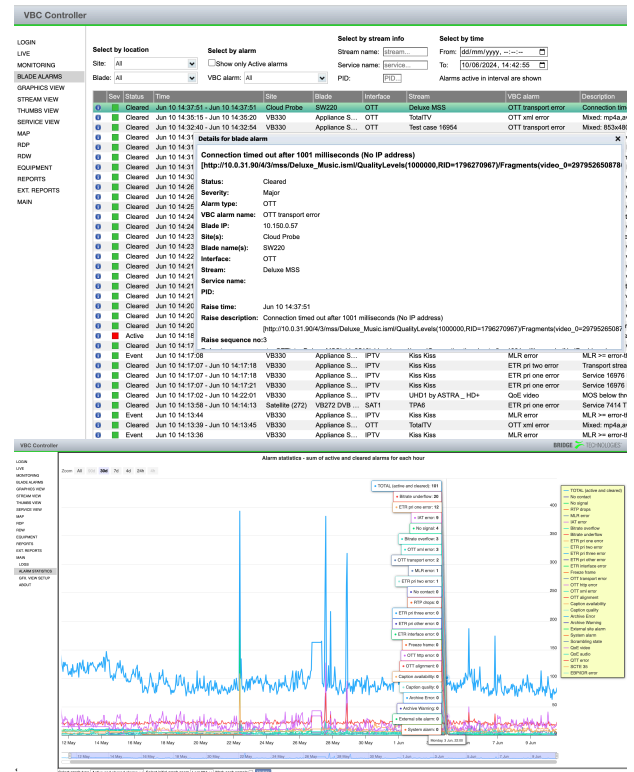
This isn't just a nice-to-have visual; it's a vital operational tool. By seeing the health of all key streams at once, with immediate visual cues about any issues, engineers can rapidly identify where the flood is coming from and take swift action. Designed to handle multicast and SRT streams alike, VBC Live fits smoothly into modern IP and hybrid broadcast environments. It's a powerful example of how combining rich visual monitoring with deep data correlation can help broadcast teams perform best practice.

- Live video mosaics for instant visual verification
- Customisable dashboards tailored to your operational role
- Fault drill-down from a high-level alert straight to the root cause
- Decentralised probes, centralised intelligence, accessible anywhere

Perfect for MCRs, NOCs, and distributed teams managing complex OTT, RF, and IP workflows.

Alarming and alarm statistics

The VBC offers alarm filtering and integration to avoid alarm flooding and false positives. A Live alarm view shows the currently active alarms on all sites monitored by VBC. A powerful alarm trending graph available on a per-user basis offers statistics over up to 2 years back in time. For the ultimate in alarm resolution, it is possible to also access and search in the instant alarms from the individual probes via the Blade Alarms view. Filtered alarms can be further forwarded to 3rd party NMS style systems via a configurable SNMP Trap interface.

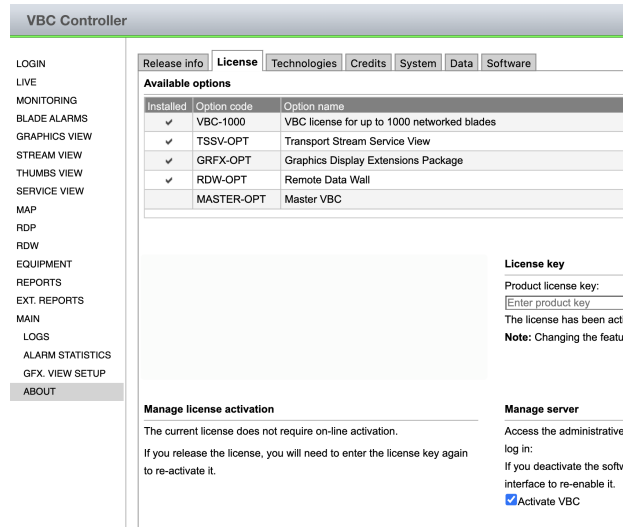


Software and Configuration Management

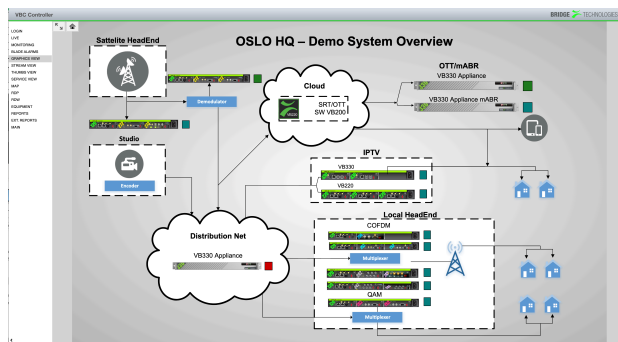
The VBC offers an Equipment dialogue that allows the operator to gain a centralized overview of systems related information such as product types, hardware versions, serial numbers, software versions, license keys, license maintenance expiry dates, probe uptimes, temperature, CPU usage, RAM usage, disk usage. The Equipment dialogue offers a centralized method of performing bulk software updates towards the probes being managed. It also allows configuration files to be replicated from one probe onto others, saving time during system setup and change.

Licensing

The VBC licensing scheme is flexible by nature and is based on how many unique probes are being operated under the control of the VBC. Each probe counts as a license item and licenses can be added with granularity in steps of 1 and 5, depending on how many probes the system has. A minimal VBC consists of 5 licensed nodes and can grow up to a VBC system managing 500 nodes. For higher node counts than this it is possible to operate multiple VBC instances in a hierarchical architecture to scale into the thousands. The Remote Data Wall (RDW) option is activated though a dedicated license key and as such is not included as standard. It is furthermore possible to operate a VBC system without any license at all activated. The system then defaults down to becoming a simple element manager used primarily for configuration management and centralized batch software and license updates of the probes under its control. Without the license key activated the VBC element manager has none of the advanced features such as alarm aggregating, reporting, graphics view and so forth.

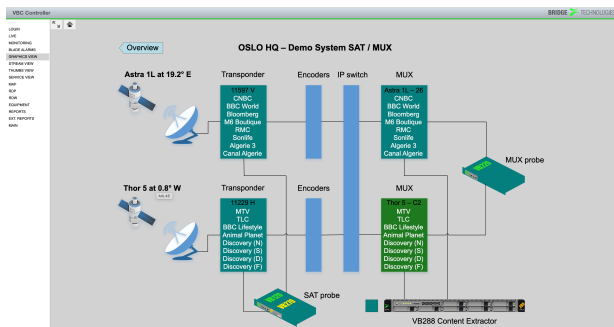


Installed	Option code	Option name
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<input checked="" type="checkbox"/>	TSSV-OPT	Transport Stream Service View
<input checked="" type="checkbox"/>	GRFX-OPT	Graphics Display Extensions Package
<input checked="" type="checkbox"/>	RDW-OPT	Remote Data Wall
<input type="checkbox"/>	MASTER-OPT	Master VBC



Graphics View

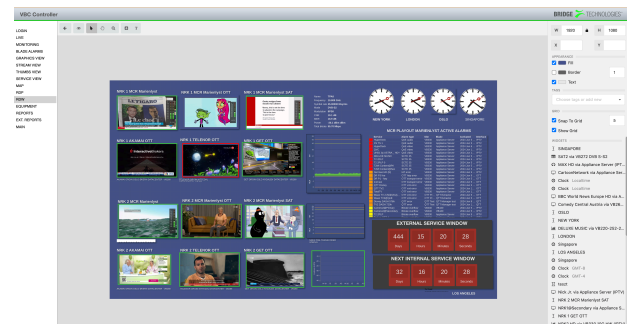
The VBC can import system diagrams in the Visio™ file format to have active objects defined. An active object is a graphical item in the diagram with an alarm source associated with it, making it possible to dynamically change colors to reflect the system health. Example usages include physical rack layout diagrams, logical signal flow



charts, network diagrams or geographical map locations. The graphics view systems diagrams can be configured to be shown in a carousel manner to the operator to cycle through as much relevant information as possible. Each graphics diagram is recursive in nature, where the user can click on an object in one drawing and drill into another. Links can be made to tunnel straight into monitoring probes from the top-level graphical view.

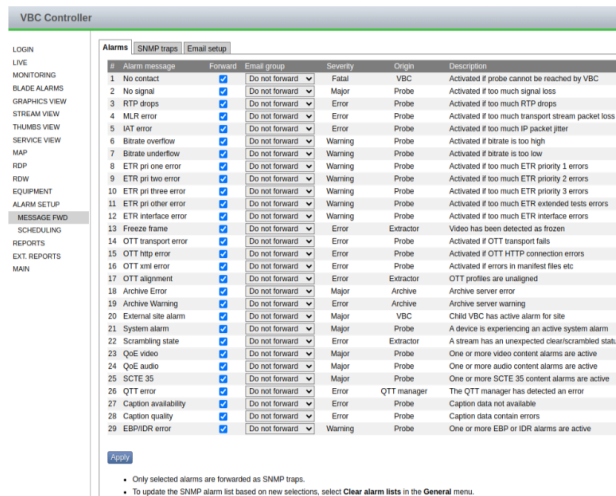
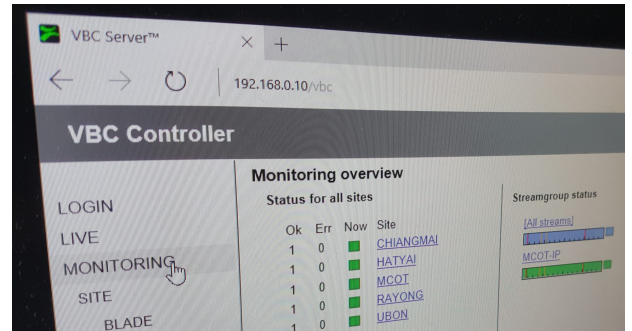
Remote Data Wall (RDW)

Remote Data Wall (RDW) gives the operator the capability of having multiple autonomous browser-based viewing stations accessing customized data panels in a distributed manner. The operator builds the data panel dashboards, and these are then made accessible from any browser instance. Typical data primitives making up a dashboard include alarm lists, thumbnail views, graphical Visio elements, RF signal graphs, constellation diagrams, redundancy switch status, wall clock, countdown to event, audio loudness graphs, VBC stream view, VBC graphics view, OTT status, maps, as well as many others. The client browsers are pointed towards the VBC and can then be remotely controlled and refreshed. Applications include headless data visualization in network operations centers, or in distributed work environments.



Redundancy

A second VBC instance called VBC-R is offered at a heavily discounted rate for those systems in need of 1+1 style redundancy, either on-prem or in cloud environments. Two VBC instances are then run side by side, accessing the same underlying probe units. Using the DNS setup to point to either one or the other instance it becomes possible to have a transparent and powerful redundancy scheme in place. This has advantages in terms of achieving a high up time as well as catering for a stepped systems maintenance process with minimal to no system downtime.

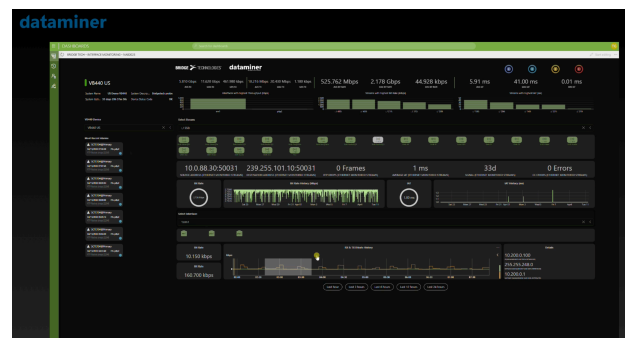


Integration interface

The VBC offers a set of northbound integration interfaces. These include SNMP TRAP forwarding of filtered VBC alarms to a third-party overlying NMS system. Up to 4 different TRAP destinations can be configured. It is also possible to configure e-mail groups to receive VBC alarms with a user-selected batch processing time. SLA reports generated by the VBC can also be forwarded automatically as e-mail attachments.

Skyline Communications - Dataminer

We give you data, your way. Whether it be through the entirely customisable Remote Data Wall or through partnership with other network control providers, one brilliant example being Skyline Communications' DataMiner, we allow you the



eliminating the possibility of man-in-the-middle attacks. This provides broadcast facilities with the ability to architect and use IP broadcast capabilities with confidence and ease.

Technical specifications

VBC SERVER

Centralized management

- Centralized management of all Bridge Technologies Probes (*IP multicast, SRT, Satellite, Cable, Terrestrial, OTT, L2TP, mABR*)
- Scalable architecture supporting up to 500 monitoring probes through licensing
- Centralized bulk software upgrade capabilities
- Hierarchical equipment views with bulk edit functionality
- Configuration file copy/paste between probes
- User based login for web browser clients
- Configurable access control with support for multiple user roles
- System wide health status overview panel
- License based

Centralized monitoring

- List of active and cleared alarms present on each device
- List of active VBC alarms across all sites based on error seconds
- User configurable severity levels, colors, and filters.
- Graphical Transport Stream aggregated alarm view for several day
- Monitoring of overall system status at-a-glance
- Drill-down functionality to examine details on the devices.
- MICROTIMELINE™ view of last 96 hours of operation for individual streams and configurable stream groups
- MICROTIMELINE™ stream view allowing easy identification of worst-performers
- Option for QTT Manager for active and continuous OTT monitoring
- Graphical timeline view for several days for comparison between sites

Centralized Monitor Wall

- Thumbnail view of all streams monitored by probes
- Live decode view of up to 20 streams monitored locally by VBC through VBC-LIVE-OPT
- Live decode view of up to 2 streams monitored by a probe and relayed to VBC
- Audio listening option for live decoded streams
- Penalty box feature by sorting on streams with most severe alarms

Remote Data Wall

- Create user specific Canvas view of widgets
- Loudness, Thumbnails, Alarms, RF Graphs, Countdowns and more

Logging and Reporting

- Trend graphs over multiple days of OTT, IPTV and RF parameters
- Report generation as PDF and HTML
- Graphical timeline view for several days for comparison between sites
- Graphical Transport Stream aggregated alarm view for several days
- Alarm logging with readout as HTML or XML

Remote control and API

- Easy integration and data export for 3rd party NMS systems through XML
- SNMP traps and e-mail notification of alarm

Deployment

- Software only, on prem and cloud
- Linux, Ubuntu

REPORTS and EXTENDED REPORTS FEATURES

FUNCTIONALITY

- Comparison of measurements with SLA agreements
- Automatic SLA trend reporting in PDF format for IP multicasts monitored
- Automatic SLA trend reporting in PDF format summarizing TR 101 290 analysis results for all transport streams monitored
- Automatic SLA trend reporting in PDF format for OTT/ABR streams monitored
- Report time period selectable from 1 day to 2 years
- Selection of sites and streams to be included in report

- Upload your own logos to personalize report
- Automatically set up regular email distribution of reports at predefined points in time

REPORTS and EXT REPORTS are now included as standard in the VBC

TRANSPORT STREAM SERVICE VIEW

FUNCTIONALITY

- View alarm state of all services inside transport streams based information in PSI/SI
- 4-day microTimeline™ alarm view of all services monitored

TSSV-OPT is now included as standard in the VBC

GRAPHICS VIEW

FUNCTIONALITY

- Active system maps with alarm highlighting based on VISIO™ import
- Alarm indication for individual graphic icons
- Logical system diagram showing signal flow
- TV channel signal flow diagram with issue highlighting

GRFX-OPT is now included as standard in the VBC

REMOTE DATA WALL (RDW)

FUNCTIONALITY

- Rich graphical data wall display from diverse sources of data
- Screen based configuration paradigm, multiple TVs or computer screens
- HTML5 based, no special hardware required
- Multi-Browser linking
- Adaptable notification modes
- Easy and elegant control plane application

Widgets included: Web (iframe), Textbox, Thumbnails (with audio bars), Loudness (freestanding audio bars and graphs), MediaWindow™, VBC Alarms, RF Graphs, Clock, Slideshow, Countdown, GraphicsView, Stream View, Weather, Redundancy, Switch status, MicroTimeline™, MicroETR™, OTT Graph
OTT Status overview, RF Constellation graph, RF Data and Map

ORDERING CODES

VBC-SERVER WITH REPORTS

VBC-BASE-5 – VBC base software supporting up to 5 probes. Includes reporting, graphics panels and transport stream service view. Includes live video mosaic for up to 5 streams given sufficient server resources. Server hardware not included.

VBC OPTIONS

VBC-ADD1 – Adds 1 probe to base system

VBC-ADD5 – Adds 5 probe to base system

RDW-OPT – Remote Data Wall with data widgets for custom dashboards

VBC-LIVE-OPT – Live video mosaic in browser with audio bars and click-through. Number of concurrent live video transcodes is limited only by the VBC server performance. Initial version supports 20x H.264 1080p 25Hz within one suitably scaled server. Scaling is possible beyond the 20 streams in future upgrades by deploying parallel transcode servers controlled by the VBC server

VB-SW1-SW – 1 Year Software Maintenance with Access to ALL new versions of Software

VB-SW3-SW – 3 Year Software Maintenance with Access to ALL new versions of Software

VB-SW5-SW – 5 Year Software Maintenance with Access to ALL new versions of Software

REPORTS, TSSV-OPT and GRFX-OPT are now included as standard in the VBC

DOCUMENTATION

MANUALS

VBC User Manual – [DOWNLOAD](#)

Click below to learn more about compatible technology options:

[Eii™](#)

[MediaWindow™](#)

Environmental

[Euroenvironment](#)

[RoHS](#)

[WEEE](#)

[Download PDF](#)