# OCEAN BLUE
## SOFTWARE

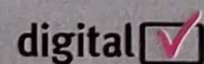# world class software solutions
## for the digital home

oceanbluesoftware.co.uk
oceanbluesoftware.hk
info@oceanbluesoftware.co.uk

DIGITAL (TV) GROUP    DVB    digital ✓    Freeview +

# The Company

Ocean Blue Software based in Bristol and Hong Kong, specialises in the development, distribution and support of world class software solutions, which are incorporated into Digital TV consumer electronic products, present in the digital home.

Ocean Blue's approach to customers and vendors is to build transparent, open business relationships with clients and strategic partners, which offer long term customer satisfaction.

Ocean Blue's software products adhere to international digital broadcast standards, most notably DVB, DTG and ETSI.

Products are designed for ease of integration into digital TV receiver devices, such as; set top boxes, plasma screens, LCD TVs, digital video recorders, mobile phones and handheld devices, all of which can be found in the emerging digital home.
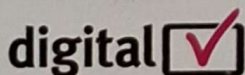
Our software products support digital TV broadcasts for terrestrial, satellite, cable and internet protocol. Ocean Blue's software can be configured to run on different chip sets and operating systems.

# The Software

Ocean Blue's software products stand out in terms of maturity, usability and operability; they have taken over 20 man-years of development effort and been thoroughly field tested. Hundreds of thousands of our products are in proven, reliable operation, worldwide today.
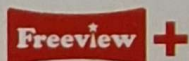
Key features of Ocean Blue software products:

- Software can be optimised to a hardware platform chipset.
- Modular, robust and well structured software.
- Portable between operating systems.
- Developed to industry standards.
- Fast operational performance and speed resulting in a better user experience.
- Developed in 'ANSI C' programming language for portability across hardware platforms.
- All designed to meet Digital Tick standards.

## digital ✓

The 'Digital Tick' logo has been developed as a UK certification mark to help consumers through digital switchover.

Ocean Blue offers fully comprehensive testing methodologies to assist clients to gain DTG product accreditation and product logos.

Freeview +    DIGITAL TV GROUP

DVB

# The Products

Ocean Blue's Product Portfolio includes:

## VOYAGER MHEG-5 & DSM-CC (INCLUDING HD SUPPORT & BROADBAND)

Voyager is our DVB-T (digital video broadcast – terrestrial) based MHEG-5 interactive software middleware system for incorporation into digital televisions and set top boxes. The MHEG-5 engine allows the set top box to receive digital interactive terrestrial television transmissions eg: press red functionality.

MHEG-5 is also the UK DTG interactive media standard for sending and receiving digital media objects, for example: text, cartoons, images, games, photos and can be used for applications such as interactive advertising and online gaming.

The DSM-CC data carousel, a data transmission mechanism, is supported and supplied as part of Voyager MHEG5, all of which conform to the new MHEG-5 1.06 specification. The Voyager (API) can be supplied as source code to allow customers to integrate with their own system, quickly and easily.

## SUNRISE DVB – HIGH DEFINITION (HD) SUPPORTED

Sunrise is our DVB (digital video broadcast) family of software products offering Free To Air or pay-per-view functionality; comprising all the components needed to provide clients with digital TV and audio on a set top box or television.

Sunrise provides comprehensive support for music, video, TV, High Definition TV MPEG - 4.H264, images, text and the data necessary for a hybrid IPTV set top box. It also provides support for conditional access and pay-per-view security systems.

Sunrise DVB Key Features include:

- Support for High Definition TV broadcasts
- Inbuilt multi-mode support for both Analogue & Digital TV broadcasts
- Robust, modular, rich, fully featured DVB software product
- Support for pay per view Conditional Access (CA) & DRM security systems
- Support for Common Interface (CI)
- Support for Common Interface CI+

Sunrise DVB HD variations include:

- DVB-T Terrestrial
- DVB-S Satellite
- DVB-H Handheld
- DVB-SH Satellite handheld

Sunrise DVB core includes support for the following plug-ins & extensions:

- MHEG-5 & DSM-CC + return path connectivity for IP & PSTN
- Freeview +
- Surfsoft PVR software
- Azure DVB-H module
- Arcadia arcade games pack
- CI+ support & software

The sunrise hardware application programming interface (API) can be supplied in source code form to allow customers to quickly and easily integrate their own software system.

### Support for Analogue & Digital Broadcasts

With Ocean Blue's Sunrise, channel tuning for analogue and digital is accomplished through the same user interface, giving consumers a common look and feel across multiple broadcast mediums. It will also assist the consumer with an easy dual set up process for idtv's via one single user interface.

## AZURE DVB-T/H & DVB-SH

Azure is our DVB-T/H (digital video broadcast – handheld devices) software product that provides digital TV terrestrial reception and broadcast of TV, plus many more features, onto mobile phones and other portable devices like personal video recorders. DVB-T/H module is emerging as a new global standard and market for many consumer electronics and mobile phone companies looking to grow consumer revenue streams.

Azure, when combined with client hardware, gives you the ability to receive live digital TV broadcasts, record digital TV, download MP3 music, films, photos, images, games and play it all back whilst on the move.

## TRITON MHEG-5 AUTHORING TOOL

The Triton IDE provides a UI Application authoring tool that can generate platform specific code. Triton comes bundled with an MHEG-5 generator that produces MHEG-5 applications. This allows content developers to develop interesting & varied CI+ and MHEG-5 interactive TV applications, quickly and easily.

Benefits of Triton include:

- Rapid prototyping of MHEG applications
- Construction of professional GUI applications
- Speed of UI application design
- Reduced total cost of ownership for UI applications
- Simplified UI application development oriented around tools designers are familiar with
- In-built Code editor
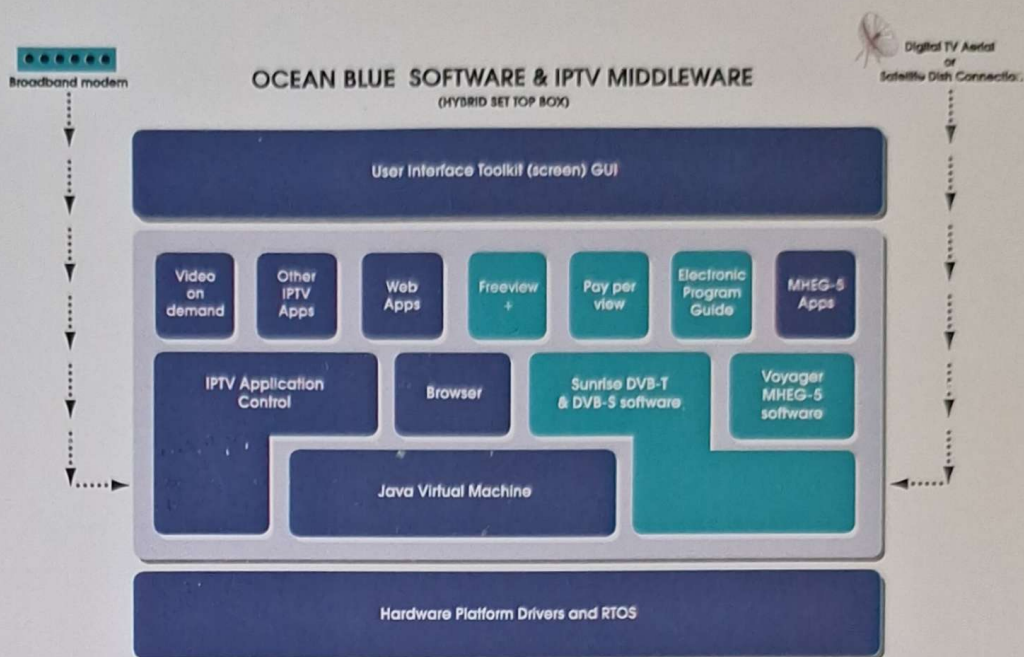- Generation of MHEG-5 application code at the click of a button

OCEAN BLUE SOFTWARE

# Sunrise DVB-IP

Ocean Blue's DVB-IP software product is based around our Sunrise product. It provides comprehensive support for music, video, TV, High Definition TV, images, text and the data necessary for an IPTV set top box.

The IPTV set top box is connected to an ASDL broadband modem for applications such as Video on Demand and streaming TV.

The DVB-IP software is compatible with most IP middleware software solutions and provides support for conditional access, DRM and pay-per-view security systems.

**Broadband modem**

## OCEAN BLUE SOFTWARE & IPTV MIDDLEWARE
### (HYBRID SET TOP BOX)

**Digital TV Aerial or Satellite Dish Connection**

- User Interface Toolkit (screen) GUI
- Video on demand
- Other IPTV Apps
- Web Apps
- Freeview +
- Pay per view
- Electronic Program Guide
- MHEG-5 Apps
- IPTV Application Control
- Browser
- Sunrise DVB-T & DVB-S software
- Voyager MHEG-5 software
- Java Virtual Machine
- Hardware Platform Drivers and RTOS

# Surfsoft Freeview+

**Freeview +**

## Ocean Blue Software for Freeview+ Digital TV recorders

### FREEVIEW+, a digital TV recorder brand designed to raise consumer awareness and product standards.

With digital switchover already started in the UK, there is a need to communicate the benefits of digital TV recorders to consumers. Digital TV recorders are an advanced form of the traditional VCR. They record to an internal hard disk or onto DVD-Rs, so there is no need for tapes.
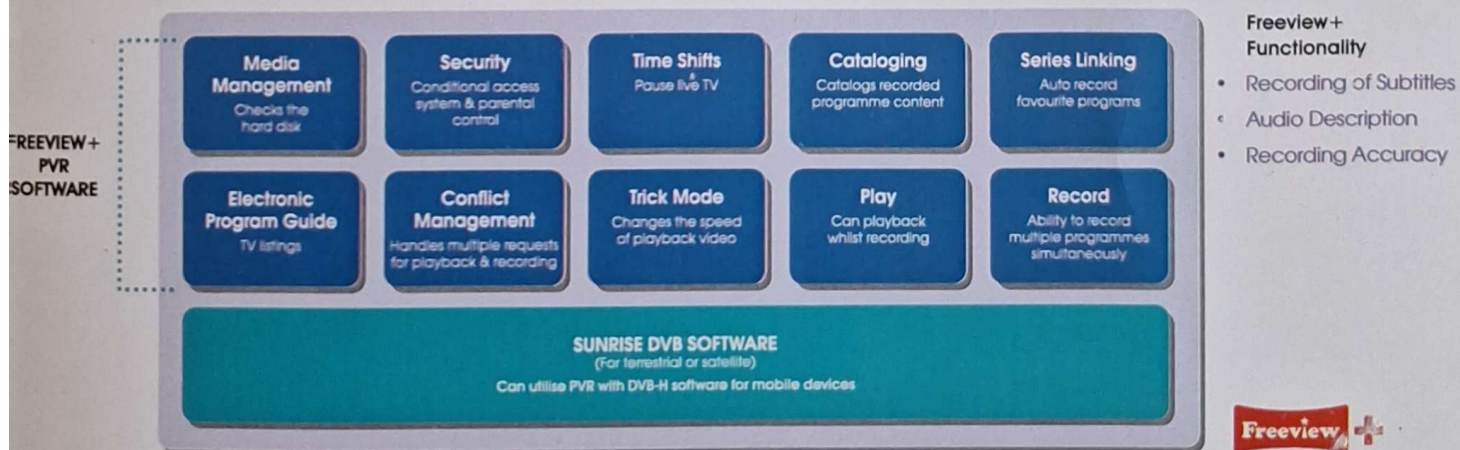
Here at Ocean Blue we provide quality software products to combine with client hardware, to provide the foundation for the custom manufacture of PVR's, to Freeview+ standards.

Our Surfsoft Freeview+ PVR software product contains features such as indexing and trick modes which combined with our Sunrise DVB software, allows clients to specify and build a PVR machine which will meet their exact customer requirements (see diagram below).

The market for PVRs is set to expand rapidly, and Ocean Blue offers clients software developed to industry standards using DTG test suites, along with full integration and support services of its software components into clients digital TV products.

## PERSONAL VIDEO RECORDER (PVR)
### (DIGITAL TV RECORDER / FREEVIEW+ STANDARD)

**FREEVIEW+ PVR SOFTWARE**

**Freeview+ Functionality**
- Recording of Subtitles
- Audio Description
- Recording Accuracy

- **Media Management** — Checks the hard disk
- **Security** — Conditional access system & parental control
- **Time Shifts** — Pause live TV
- **Cataloging** — Catalogs recorded programme content
- **Series Linking** — Auto record favourite programs
- **Electronic Program Guide** — TV listings
- **Conflict Management** — Handles multiple requests for playback & recording
- **Trick Mode** — Changes the speed of playback video
- **Play** — Can playback whilst recording
- **Record** — Ability to record multiple programmes simultaneously

**SUNRISE DVB SOFTWARE**
(For terrestrial or satellite)
Can utilise PVR with DVB-H software for mobile devices

**Freeview +**

# Ocean Blue Software High Definition Products

## Broadcast Platform

| DVB-SH | DVB-S Satellite | DVB-C Cable and Ethernet | DVB-T TV Terrestrial | DVB-H Mobile Terrestrial | DVB-IP Broadband/ Internet |
|---|---|---|---|---|---|

### PLUG INS/EXTENSION

Utilise our Freeview+, Surfsoft PVR, Azure DVB-H, Voyager MHEG-5, Arcadia or CI+ browser plug-ins depending on your customer requirements.

**Plug ins**

| Freeview + | *Requires OBS DVB Core* Surfsoft PVR | *Requires Partial OBS DVB Core* Azure DVB-H | *Stand Alone* Voyager MHEG-5 | Arcadia Games | CI+ browser |
|---|---|---|---|---|---|

### Sunrise Application Layer

| Screen Navigation | Client Logos | Colour Scheme | Text Language Translation | Country / Region Selection |
|---|---|---|---|---|

### Sunrise Digital Receiver Layer

| Channel Tuning | Service Information Control | Font Engine | Electronic Program Guide | Conditional Access | Subtitles | Common Interface | CI+ |
|---|---|---|---|---|---|---|---|

### Sunrise Hardware Application Layer (API)

| Audio | Tuner | Memory | Video | Front Panel | Graphics | DVB | Remote Control |
|---|---|---|---|---|---|---|---|

### Ocean Blue currently supports the following operating systems

- Linux
- WINCE
- OS20
- pSOS
- Nucleus
- eCos

### Ocean Blue Software supportable chipsets

- NXP • Novatek • AMD • Trident • ST • Intel • Sunplus • Mediatek • Toshiba • ALI • SiS • Himax

### You now have a digital TV receiving device

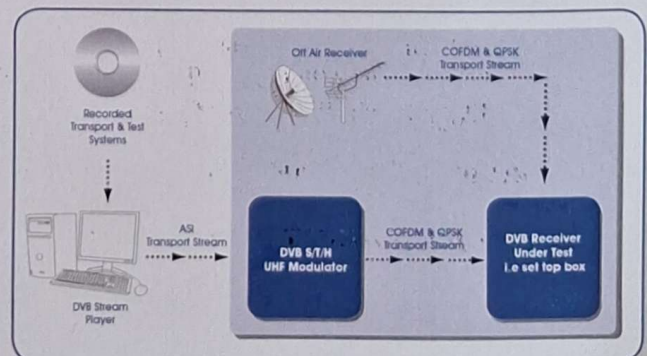**eg: Set-Top-Box, TV, Mobile Phone, Personal Video Recorder, Portable TV Multimedia Player.**

## Test Methodologies & Processes

DIGITAL TV GROUP    DVB

Hardware & software specifications for UK Digital TV receivers have been set by the DTG (Digital Television Group). Product compliance to the DTG specification also allows the manufacturer to use the Freeview and Digital tick logos on product.

Ocean Blue Software provides clients with quality control, test methodologies and full access 24/7 to our conformance test labs. This allows comprehensive testing of Digital TV receivers. The use of a DSM-CC carousel builder and multiplexer allows realistic test signals to be created.

Ocean Blue operates and provides for clients all DTG MHEG5/ DSM-CC and DVB-SI test suites. We also assist clients achieve accreditation and gain all relevant industry standard product logos including the Digital Tick.