

# NetFront™ DTV Solution

Forging ahead in Digital Broadcast Browsing Solutions

[For Mobile TV]

## NetFront™ Browser DTV Profile DVB-H Edition

Deliver an Innovative and Consistent Mobile DTV Experience Across Multiple Mobile Platforms

## NetFront™ MobiTunes

One-Segment Television (Digital Radio) Application

## NetFront™ Browser DTV Profile One-seg Edition

BML Browser for ISDB-T One-Segment Broadcasting

## NetFront™ Browser DTV Profile One-seg Edition SDK

A Porting and Customization Kit for NetFront Browser DTV Profile One-seg Edition

## NetFront™ BML Viewer One-seg Edition

BML Contents Viewer Compliant with ARIB ISDB-T One-Segment Standards

[For Home TV]

## NetFront™ Browser DTV Profile BML Edition SDK

ARIB-Compliant BML Browser Porting/Customization Kit

## NetFront™ BML Viewer

BML Content Previewer for ARIB-Compliant Terrestrial Digital Broadcasts

ACCESS positions digital television as an important platform in the ubiquitous world of audiovisual communications. It is the major provider of innovative and essential products-including terrestrial digital, BS, and Japanese CS broadcasting to the digital broadcasting markets. Among these products, the BML-compatible NetFront Browser DTV Profile for digital television has the proud record of being embedded in a whole range of mobile terminals and has virtually become an industry standard. In addition, the ACCESS product range includes the NetFront Browser DTV Profile One-seg Edition for ISDB-T one-segment mobile broadcasting (one-segment) and the NetFront Browser SDK, an HTML porting/customization kit for the digital TV and IP set-top box field, which has been attracting much attention in recent years. It is no coincidence that with such a powerful product lineup, ACCESS is the runaway industry leader in supplying browsers for each of the HTML, BML, and BML or one-segment categories. Furthermore, ACCESS supplies not only browsers for displaying contents; it also provides the all important viewers that enable preview of contents on a PC and these are absolutely essential for compiling contents. As a result, ACCESS has realized total support, from the compilation of contents to layout checking and the actual display of the contents on a device.

Mobile terminals and broadcast infrastructure are still evolving, and they are starting to merge. When they do fully integrate, the television environment will be omnipresent and people will be able to watch TV wherever and whenever they want to. Television and Internet functions will then integrate, and TV will evolve as a complex platform that enables anyone to easily access a whole spectrum of information and services. In preparation for the full-fledged start of digital broadcasting for the home and for mobile terminals, ACCESS is supplying total solutions that foresee the future fusion of broadcasting and communications.



# NetFront™ Browser DTV Profile DVB-H Edition

Deliver an Innovative and Consistent Mobile DTV Experience Across Multiple Mobile Platforms

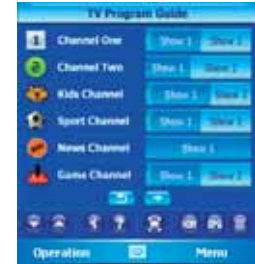
NetFront™ Browser DTV Profile DVB-H Edition combines ACCESS' NetFront™ Browser DTV Profile with the FastESG™ service guide from EXPWAY. The combined solution, which is compliant with DVB-IPDC and OMA-BCAST standards, enables mobile TV solutions on embedded devices. Operators can optimize the distribution of content over various transportation systems, and end-users can easily access content, wherever it comes from (broadcast, unicast, or local in the handset). NetFront Browser DTV Profile DVB-H Edition also provides advanced interactivity features, e.g. voting or betting capabilities, and distribution of multimedia files, such as ContentCast™, a podcasting solution extended to video.



Live TV with interactive feature



Electronic Service Guide (ESG)



Electronic Program Guide (EPG)

## Features | NetFront Browser DTV-Profile DVB-H Edition

### Specifications

Powered by ACCESS NetFront™ Browser  
Powered by EXPWAY FastESG Version 3.0



Easy integration with major Conditional Access Systems (CAS)  
Dynamic and flexible UI  
Direct access to TV APIs  
Tight integration with Video Player  
Interactive Electronic Program Guide (EPG), (Bridge to VoD)  
Full management of Electronic Service Guide (ESG)

Datacasting and ContentCast services management  
FLUTE implementation and multi-stream support  
Optimized for small footprint devices

### Standards Compliance

DVB ETSI TS 102 471 v1.1.1, v1.2.1 (v2 pending)  
DVB ETSI TS 102 472 v1.1.1, v1.2.1  
OMA BCAST service guide for Mobile Broadcast Services v1.0\*

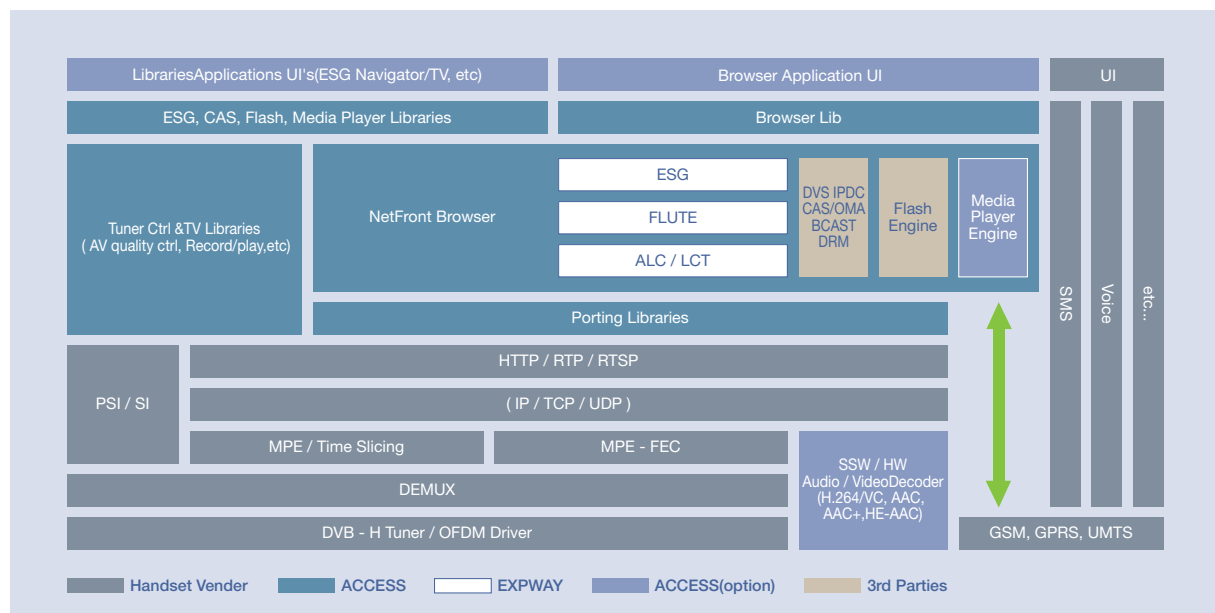
### Key Benefits

Compliant with industry standards  
Seamless integration through a complete package  
Consistent experience between unicast & broadcast services  
Browser-based solution  
End-to-end advanced features compliance with operators



\*ACCESS and EXPWAY are members of Open Mobile Alliance.\*

## Module Diagram | NetFront Browser DTV-Profile DVB-H Edition



# NetFront™ MobiTunes

One-Segment Television (Digital Radio) Application

NetFront™ MobiTunes is a one-segment television (digital radio) application that can be easily integrated with NetFront Browser DTV Profile One-seg Edition, the de-facto standard one-segment BML browser. NetFront MobiTunes provides basic functions required for one-segment mobile phone vendors to speed device development.



Example of a Horizontal Screen



Example of a Vertical Screen

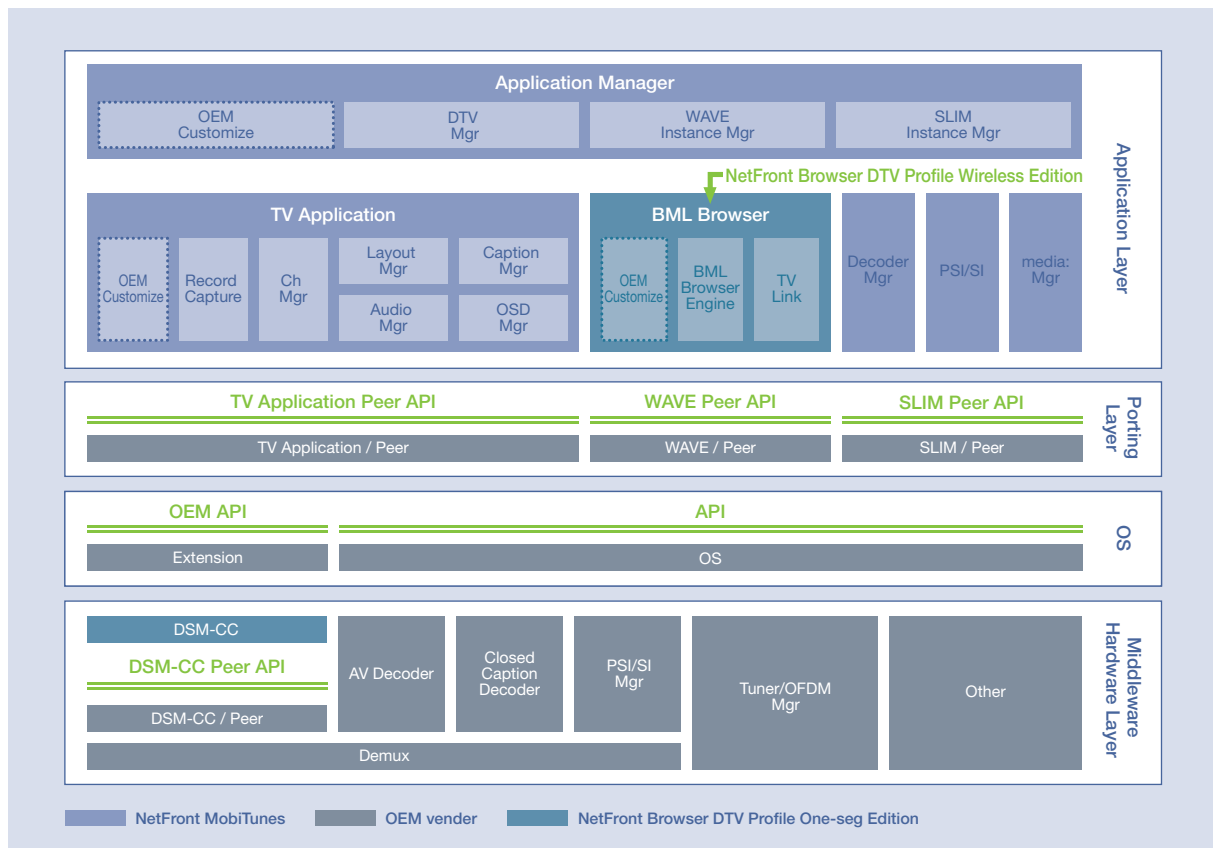
## Features | NetFront MobiTunes

- Tuning
- Channel List Management
- Area Setting Function (Preset, Broadcast Wave Scan)

- Control of A/V/Caption (including layout control of horizontal and vertical screens)
- Recording, Saving images
- Trick Playback Control

- I/F with EPG Applications
- Digital Radio Mode
- Simultaneous Viewing and Listening
- Time Shifting Playback Control
- Media:/media colon

## Module Diagram | NetFront MobiTunes



# NetFront™ Browser DTV Profile One-seg Edition

BML Browser for ISDB-T One-Segment Broadcasting

NetFront™ Browser DTV Profile One-seg Edition is a BML browser compatible with ISDB-T one-segment, terrestrial digital television broadcasting for mobile terminals and terrestrial digital audio broadcasting (digital radio). It conforms to the TR-B14 C Profile and Radio data broadcasting standards defined by ARIB. On the basis of its rich track record in both mobile phones and digital television, ACCESS was quick to set about development prior to the start of broadcasting services, and the NetFront Browser is now employed in many one-segment terminals.



## Features | NetFront Browser DTV Profile One-seg Edition

ARIB TR-B14 C Profile-compliant  
Compliant with digital radio  
Television link application provided as standard

Can supply a DSM-CC module compliant with TR-B14 C Profile and digital radio  
Full support for terrestrial digital intrinsic functions

Supports terrestrial digital audio broadcasting (digital radio) intrinsic functions  
Supports GIF and JPEG

## SDK | NetFront Browser DTV Profile One-seg Edition

### NetFront™ Browser DTV Profile One-seg Edition SDK

A Porting and Customization Kit for NetFront Browser DTV Profile One-seg Edition

NetFront Browser DTV Profile One-seg Edition SDK is a porting and customization kit for NetFront Browser DTV Profile One-seg Edition. This SDK enables developers to quickly port and customize NetFront Browser for one-segment mobile broadcasting and digital radio BML solutions on mobile devices and other platforms.

## Viewer | NetFront Browser DTV Profile One-seg Edition

### NetFront™ BML Viewer One-seg Edition

BML Contents Viewer Compliant with ARIB ISDB-T One-Segment Standards

NetFront™ BML Viewer One-seg Edition conforms to the C Profile (one-segment) and digital radio data broadcasting standards for terrestrial digital broadcasting defined by ARIB. The viewer enables preview of BML content produced for data broadcasting on the PC monitor once it is installed. Since it uses the same BML engine as the NetFront Browser DTV Profile One-seg Edition, which has been employed in many one-segment terminals, it can accurately display content prepared for mobile terminals.



#### Browsing Functions

Permission frequency setup for communications/NVRAM writing, etc.  
Option Function Setup  
Can read BML contents developed on a PC folder with a pseudo DSM-CC  
Television Link Startup Button  
Link contents presentation using PC network connection function  
Supports HTTP and SSL communication  
Supports the HTTP and SSL communication functions  
Mode switching in one-segment digital radios  
UA edit function

Television and Radio Link Start Button  
Size Display Function by page

#### Log Functions

Event Firing Log  
ECMAScript Execution Log

#### Debug Functions

Script Error Place Display  
Greg/Ureg Content Display  
NVRAM Content Display

#### Event Firing Function

Manual Event Firing

#### Linkup Functions

Can check information to an external application delivered from a script language on the dialog box  
At time of external mailer startup  
At time of HTML browser startup  
At time of scheduler application startup  
At time of address book application startup  
During tuning operation  
While selecting audio components (only for digital radios)

#### Other

Supports startup from command line

# NetFront™ Browser DTV Profile BML Edition SDK

ARIB-Compliant BML Browser Porting/Customization Kit

NetFront™ Browser DTV Profile BML Edition SDK is a software development solution that facilitates porting and customization of the ACCESS BML browser, which is compatible with the A Profile of the ARIB data broadcasting standards. This kit is based on NetFront Browser DTV Profile, a reputed BML browser with a spectacular track record in the digital television market. A DSM-CC module is available as an option. A NetFront BML Viewer set, which allows BML content to be viewed on a PC, is included in this package, increasing the efficiency of mobile terminal development.



## Features | NetFront Browser DTV Profile BML Edition SDK

### Specifications

- ARIB-compliant: STD-B10, STD-B21, STD-B24, TR-B14 A Profile, TR-B15
- STD-B10: digital broadcast program sequence information standards
- STD-B21: digital broadcast receiver standards
- STD-B24: data coding and transmission specifications for digital broadcast
- TR-B15: operational guidelines for digital satellite broadcasting
- TR-B14: operational guidelines for digital terrestrial television broadcasting
- ARIB-DC, HTTP, HTTPS
- XHTML1.0
- CSS Level 1, 2 (BML expansion)
- ECMAScript 2nd Edition (BML expansion)
- DOM Level 1, 2 (BML expansion)
- PNG, MNG, JPEG
- Supports color buttons
- Supports broadcasting expansion event
- Supports interactive communications
- Supports broadcaster-specific data storage
- Software keyboard

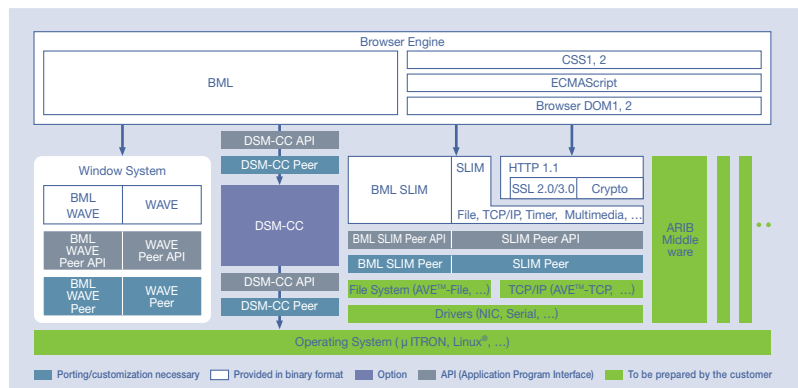
### Contents of the Package

- NetFront Browser DTV Profile (BML) Engine (binary)
- BML WAVE Module (binary)
- BML SLIM/HTTP Module (binary)
- DSM-CC Module (binary): as an option
- Skeleton Peer API Source File
- For browser/DSM-CC : as an option

### Common Header File

- For browser/DSM-CC: as an option
- NetFront™ BML Viewer
- For Windows PCs

\*This product is offered in customized binary format tailored to the development environment of the customer.  
\*PC-run emulator and related devices are not provided.



## Viewer | NetFront Browser DTV Profile BML Edition SDK

### NetFront™ BML Viewer

BML Content Previewer for ARIB-Compliant Terrestrial Digital Broadcasts

NetFront™ BML Viewer is the world's first Broadcast Markup Language (BML) content previewer for terrestrial digital broadcasts. NetFront BML Viewer is compatible with BS, CS, and terrestrial digital data broadcasting standards set by ARIB. Install it on a computer and immediately preview BML content created for data broadcasting. NetFront BML Viewer is remarkably stable because it was developed based on NetFront Browser DTV Profile, which is already used in numerous digital televisions.



### Browsing Functions

- The world's first terrestrial digital broadcasting-compatible previewer
- Immediately preview BML content on a computer
- Remarkably stable since it is based on NetFront Browser DTV Profile

- Supports interactive communications
- NVRAM Editor
- BML Event Generation
- ECMAScript Log Output
- Remote Control Operation
- Supports pseudo DSM-CC protocol

- Full-Screen Mode
- Real-Time Replay Interface
- Simple Movie/Audio Replay
- Modem Operation Simulator



© 2008 ACCESS CO., LTD. All rights reserved. \*ACCESS, NetFront and AVE are trademarks or registered trademarks of ACCESS CO., LTD. in the United States, Japan and other countries.\*The DVB logo is the registered trademark of the Digital Video Broadcasting -DVB- project.\*EXPWAY, the EXPWAY logo, FastESG™, ContentCast™, among others, are registered trademarks and/or registered service marks of EXPWAY.\*Flash is a registered trademark or trademark of Adobe Systems Incorporated in the United States and/or other countries.\*The registered trademark LINUX® is used pursuant to a sublicense from Linux Mark Institute, the exclusive licensee of Linus Torvalds, owner of the mark on a world-wide basis.\*Windows is a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.\*All other products and brand names may be trademarks or registered trademarks of their respective owners. Specifications are subject to change without prior notice.

**ACCESS CO., LTD.**

Hirata Bldg, 2-8-16 Sarugaku-cho, Chiyoda-ku,  
Tokyo 101-0064 Japan  
PHONE +81-3-5259-3511 FAX +81-3-5259-3544  
E-mail: adinfo@access.co.jp

**ACCESS CO., LTD. Taipei Office**

Suite105, 17F/B, No.167, Tun Hwa N.Rd., Taipei, 10549, Taiwan  
PHONE +886-2-2717-1999 EXT. 1151-3  
FAX +886-2-2717-2199

**ACCESS Systems Europe GmbH**

Essener Strasse 5 TZU-IV D-46047 Oberhausen, Germany  
PHONE +49-208-8290-6464  
FAX +49-208-8290-6465

**ACCESS SEOUL CO., LTD.**

8F/9F, PAXTOWER, 231-13, Nonhyun-Dong, Gangnam-Gu,  
Seoul, 135-010, Korea  
PHONE +82-2-513-2000  
FAX +82-2-513-2010

**ACCESS (Beijing) CO., LTD. (爱可信(北京)技术有限公司)**

Floor 3, China Data Kingdom Mansion  
No.1 North Wajiang Road, Chaoyang District, Beijing 100102, China  
PHONE +86-10-64396000  
FAX +86-10-64396001

**ACCESS Systems Americas, Inc.**

1188 East Arques Avenue, Sunnyvale CA 94085 U.S.A.  
PHONE +1-408-400-3000  
FAX +1-408-400-1500

**Developer**

<http://www.access-company.com>