



# DTV / DMA / PVR

## Software for Digital Entertainment Devices

Avtrex provides fundamental technology for digital entertainment products, from core television functionality to networked entertainment capabilities. Our mission is to enable our customers to start with best-of-breed capabilities, and customize or extend them to create differentiated products in the competitive consumer electronics marketplace.

### KEY FEATURES

#### COMPLETELY CUSTOMIZABLE

Avtrex understands that every manufacturer has unique requirements for branding and capabilities. Our software modules make it easy to change:

- colors, borders, and graphic elements
- fonts, wording, and languages supported
- controls for unique features

#### DTV STACK

Avtrex's digital television (DTV) stack provides all the software for a complete television solution:

- on-screen program information & guide
- parental control
- closed caption decode and display

#### DIGITAL MEDIA PLAYER

A complete solution for delivering digital media directly to a television or television-connected product, including:

- support for DLNA player and server capabilities (DMS/DMP/DMR)
- photo browsing & slideshows with pan, zoom, and rotate
- music browsing & playlists, plus internet radio
- video browse and playback with trick play

#### TELEVISION RECORDING (PVR / DVR)

Extraordinary advanced features, including:

- automatic conflict avoidance with recording rescheduling
- multi-television and multi-user support with "TV Allowance"
- automatic recording extension of sports and other live TV events

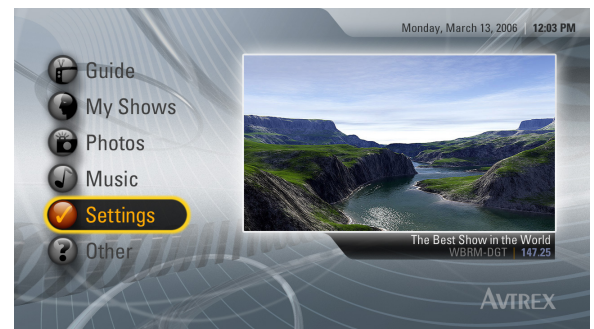
#### PORTS QUICKLY TO NEW CHIPS

Avtrex offers additional capability modules that can be easily integrated

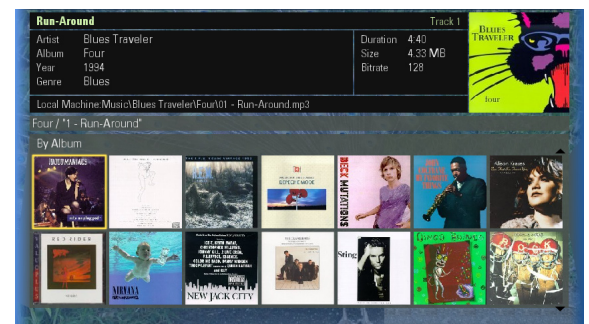
- DTV stack: all the software you need for digital television
- personal video recorder (PVR): highly featured with local or networked HDD



Set-top box PVR + media player



Basic digital television with PIP



Album cover music browsing with different colors and themes

# Features and Specifications

## DTV

### TUNING

**ATSC support** includes complete support for the North American & Korean standard for broadcast digital television with multiple tuners

**NTSC support** includes complete support for legacy analog broadcast signals

**QAM support** allows direct connection to digital cable systems for unencrypted signals plus CableCARD support\*

**Channel map management** provides channel scanning functionality (including fixed frequency scanning for antenna tuning), an integrated channel map for ATSC & NTSC, user "favorites", and channel disable

### VIDEO PRESENTATION

**Screen format compensation** provides picture scaling for any shape of television, converting 4:3 or 16:9 material through stretching, zooming & boxing

**Picture-in-picture support** provides options for size, position, and number of windows

### CLOSED CAPTIONS

**Digital captions** conforming to EIA-708B are decoded and displayed

**Analog captions** conforming to EIA-608B are used if digital captions are not available

**Caption controls** support auto-enable on mute, preferred language settings, and dictate caption rendition (color, background, size, style)

### AUDIO / VIDEO CONTROL

**Basic video controls** include brightness, contrast, hue, saturation, and sharpness

**Basic audio controls** include treble, bass, balance, speaker enable, and mono/stereo

**Custom controls** provide support for capabilities of a particular product

### SETUP

**Setup wizard** guides the user through the setup process

**Input management** allows the naming and selection of available A/V inputs

## Digital Media Player

### PHOTOS

**User controls** provide complete control of current photo with smooth zoom and pan of high-definition (HD) images and rotation. Capture pictures from live or recorded television (if used with Avtrex DTV Stack or PVR modules).

**Browse** the network to discover photos on any computer or the photo collection by date or by folder

**Slideshows** with transition effects, transition timing and music

**Formats:** JPEG & PNG\*

### MUSIC

**User controls** provide control of the "jukebox" style queue with shuffle and save-as-playlist

**Browse** the music collection by genre, artist, album name, or track name-or by album cover art

**Playlists** can be imported from the network (M3U, PLS) or created by selecting tracks or albums

**Formats:** MP3, WMA, AAC, WAV, Ogg Vorbis

**Internet radio** provides access to MP3 streams from "stations" around the world

### VIDEOS

**User controls** provide complete control of high definition (HD) video with trick play

**Browse** the network or the video collection

**Formats:** MPEG-2 (TS/PS), WMV, DivX

### NETWORKING

**Physical networks** including wired & wireless Ethernet (WiFi)

**Network connectivity:** DLNA / UPnP servers or SMB/CIFS disk sharing

### DIGITAL RIGHTS MANAGEMENT (DRM)

Includes Microsoft MS DRM 10 for Network Devices, DTCP-IP, and Real Networks Rhapsody\*

## PVR

### INSTALLATION & SETUP

Avtrex provides interactive installation and configuration instructions which are much easier to use than pouring over an instruction manual.

### FINDING SHOWS TO RECORD

A novel database design provides a powerful platform for sophisticated searching capabilities coupled with real-time results generation.

The combination is an interface unequalled in responsiveness, whether the user is looking through an on-screen guide, or searching for a show that matches particular criteria.

### AVOIDING CONFLICTS

The powerful database automatically searches for alternative showings of any program to be recorded-avoiding many conflicts without user intervention. When irresolvable conflicts do arise, users are presented with choices so that they can make an appropriate determination. Avtrex also provides automatic Bonus Time™, recording additional time before and after programs whenever appropriate.

### ENHANCED PARENTAL CONTROL

Avtrex provides a flexible system which allows parents to specify certain channels, ratings, and even days and times when children are allowed to watch TV. By setting a TV "quota", parents can encourage children to make their own choices and develop healthy patterns of choice in their television viewing habits.

### RESPONSIVE USER INTERFACE

The underlying motivation of *every* Avtrex design decision is enhancing the user experience. Every facet of the on-screen interface is designed to provide immediate user feedback and minimize confusion and button pushes.



SOFTWARE FOR DIGITAL ENTERTAINMENT DEVICES

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