

Features and Benefits

Pattern based OSD

- Background patterns allows easy setup for brightness, contrast, saturation and hue
- Patterns can be customized for OEM branding/identity

OSA (On-Screen Assistant)

- Quick adjustments for individual channels
- Side-by-side (split screen) eases adjustment for ideal setup

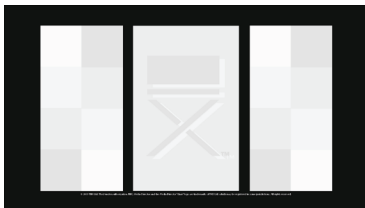
Auto Adjust

(External CE device calibration)

- Removes distortion of each input device connected to a TV by setting the optimal color, brightness, and contrast

THX[®] Media Director

- Content authored with THX metadata automatically adjusts the TV for the ideal aspect ratio, white point, and video mode
- Adjusts for ideal viewing environment for Day/Night



THX-certified patterns make adjusting easy.

Firmware Update

- TV standards, worldwide, are still developing
- Future proof
- Firmware updates via DVD disk for end user simplicity
- Reduced field technician and depot costs

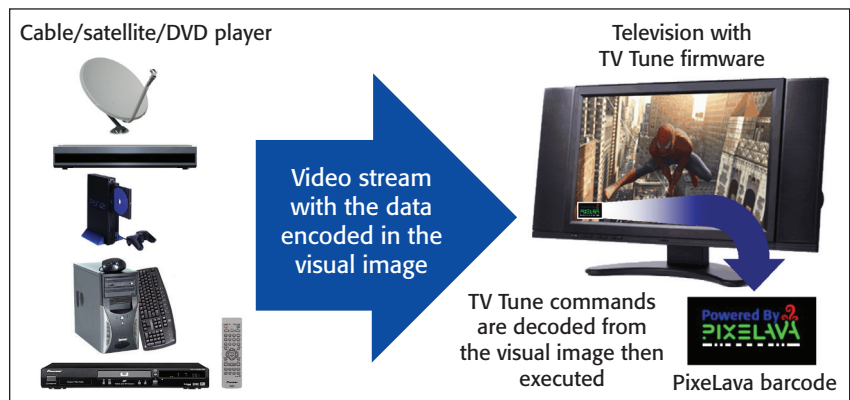
Menu and Control Customization

- TV manufacturer defines the feature set
- Controls & branding are uniquely defined and customized

Advanced Communication Technology For Televisions

Imagine a world where television devices communicate directly with television displays. Playing video games where deep shadows are no longer a mystery. Experiencing Hollywood movies the way the director intended. Watching cable and satellite programs that are bright and clear.

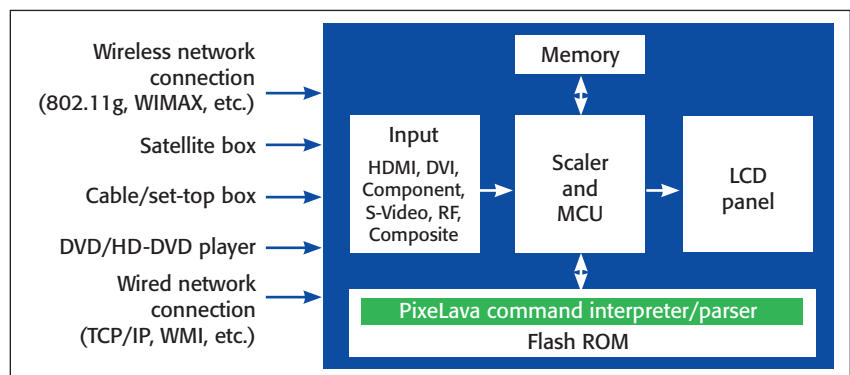
All of this is possible with a TV Tune[®]-enabled television display. When TV Tune technology has been embedded in the television's firmware, nearly any external cable/satellite HD/SD content can communicate directly with the television, from DVD players to game consoles to media PCs. No additional hardware is needed in the television. And, no changes are needed to any of the external devices.



The video talks to the television by using TV Tune-encoded images.

How TV Tune Works

TV Tune uses patent-pending PixeLava[™] commands sent from the external device to the television via encoded images. Inside the television's MPU, the PixeLava firmware decodes these commands and makes the appropriate adjustments. The communication is one-way, from the source/external device to the television. It works across all video inputs – HDMI, Component, S-Video, or Composite. TV Tune can also decode THX Media Director metadata which automatically adjusts the TV set for ideal aspect ratio, white point, and video modes. Current THX Media Director implementation is for HDMI only.



TV Tune adjusts every input.

Problems Solved With TV Tune[®]

Consumer Problems

- Color, grayscale and gamma distortions caused by external devices (DVD, computer, game console, etc.)
- Remove retail environment red push by setting the television to a home environment

Service/Commercial Problems

- Update television's firmware via DVD or web site
- Service the television remotely
- Test inputs, reset to defaults
- Allow service technicians to fine-tune the television in a user's home
- Theft deterrence and rental control in commercial applications

TV Tune Saves Unique Settings For Each Input

The adjustments made to each video input are saved to ensure a seamless consumer experience.

Customized For Each Manufacturer

- Custom controls and custom service functions
- Manufacturer's design and logo
- Manuals, instructions, and marketing materials on the DVD
- Multiple language support
- Single DVD works on LCD, Plasma, Rear Projection, CRT
- DVD and web sites only work on manufacturer's television

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PORTRAIT

DISPLAYS

SOFTWARE FOR DISPLAYS

THX[®] Media Director and THX Media Director Setup Tool

- THX metadata implementation in TV's firmware
- Content authored with THX metadata automatically adjusts the TV for the ideal aspect ratio, white point, and video mode

THX Media Director Setup Tool

- THX-certified patterns
- Adjusts for ideal viewing environment for Day/Night
- Optimizes black level, white level, saturation, and hue

Delivery of Applications

- Modified TV Tune firmware loaded into the television at the factory
- Applications consist of licensed software in two locations:
 - User application delivered on a DVD inserted in the television's shipping box, or
 - Delivered off a web site

Automatic Home Setup: Run-Me-First DVD

- First step for consumer before using the television
- Connection instructions
- Choose the correct input for the best image
- Automatic adjustments for brightness, contrast, color, gamma
- Adjusts the television out of over-saturated retail settings

Reduce No-Problem-Found Returns

- Restricted consumer access, controlled by manufacturer's specific code
- Allows television firmware update via DVD, or web download
- Allows retailer to show television at it's best in showroom
- Allows consumer to set television to the factory default
- Unique manufacturer's service features can be added

Commercial Applications

- Rental control
- Theft deterrence
- Lock-out OSD
- Lock-out specific inputs
- DVDs can be locked to a specific television
- Advanced television calibration for technician

Pattern-Based OSD

- Embedded patterns within the TV set
- Individual patterns for brightness, contrast, saturation and hue adjustment

Advanced TV Calibration

- Televisions are calibrated correctly, the problem is distortion from the source/input device
- Uses standardized adjustment techniques
- Each input is optimized and saved separately and set to an input device
- Adjustment in less than ten minutes

Innovative Firmware Updating

- Easy consumer firmware updating
- Lowest-cost path to in-the-field updating
- DVD uploads new firmware over the input source

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