



THE ALL-IN-ONE PROPERTY TV SOLUTION.

Ask smartbox question™



smartbox™

Revolutionize Your TV Distribution.

smartbox™ saves you space and money, while providing a single TV solution for your entire property.

- Dramatic cost-savings on installation and maintenance over traditional platforms.
- Takes up 93% less space*.
- Uses 90% less power for low operation cost*.
- Reduces downtime with simplistic design and virtual monitoring and maintenance.

A BIG PICTURE Solution.

smartbox™ adapts to current configurations and is always prepared for the next upgrade as technology advances.

- Add to your current configuration for an optimized, long-term solution.
- Ready to grow with you. Increase channels, property service channels and more.

The Best User Experience.

smartbox™ delivers more features, capabilities and quality picture than traditional solutions.

- Up to 96 HD channels compared to the more common range of 8 to 24.
- Simple, user-friendly onscreen guide.
- Delivery mechanism for property and brand content into every unit.

Introducing smartbox™

A simple, low maintenance all-in-one property TV solution that reduces costs, increases performance and saves space.

Ask smartbox question™



SMARTBOX™: Game-Changing Innovation Available to Customers June 13, 2014

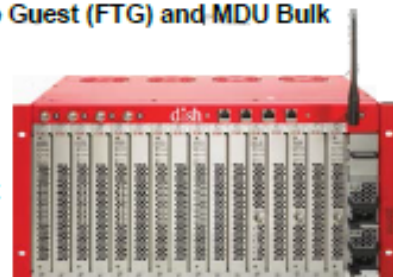
May 14, 2014

There's been a lot of buzz and anticipation around the launch of smartbox – and for good reason. It is the new DISH Business video distribution platform that provides entertainment to an entire building from equipment smaller than a piece of carry-on luggage! The target market for smartbox is huge, encompassing millions of viewers in properties such as hotels, apartments, condominiums, hospitals, assisted-living residences and university student housing.

Beginning June 13, Retailers will be able to purchase and offer smartbox to Free to Guest (FTG) and MDU Bulk customers.

Game-Changing Technology

Commercial installations are complex. Traditional headend systems require racks of equipment, hundreds of cables, multiple switches and various third-party components. Cobbling these parts together takes days of work and, sometimes, results in inconsistent quality. Plus, property owners must go to the expense of providing a climate-controlled room for such systems.



Enter smartbox, a ground-breaking new product with the ability to deliver flexibility, energy efficiency and reliability from a single platform – and change the world of DISH Business for good.

Key Benefits

The days of complex commercial installation and maintenance are over because smartbox:

- packs a lot of power in a small package – just 8.7 inches (H) x 17.6 inches (W) x 15.8 inches (D);
- comes ready to install and its modular design provides the most flexible and scalable capabilities of any commercial headend;
- has the highest level of integration (input and output signal processing) for a higher quality installation and fewer points of failure;
- decreases the technical expertise required for installation, configuration and troubleshooting;
- has all connections and replaceable components on the front of the unit for easy accessibility and to allow wall mounting in tight spaces;
- consumes at least 70 percent less power when compared with anything else on the market;
- needs just 5RU (9 inches) clearance, so it can be placed anywhere;
- can operate in temperatures up to 122°F, so it eliminates the need for expensive, cooled rooms; and
- can be remotely managed and monitored by the Retailer and by DISH via an integrated 3G wireless modem, enabling remote troubleshooting and eliminating costly truck rolls.

How SMARTBOX Works

smartbox is designed to be a revolutionary product for use in bulk video distribution applications. However, smartbox is much more than a commercial satellite receiver; it is a highly integrated video distribution platform. Not only is smartbox designed from the ground up to operate continuously, it is designed to be highly flexible by providing multiple operating modes that can be enabled simultaneously.

Three functional concepts are important to understanding smartbox:

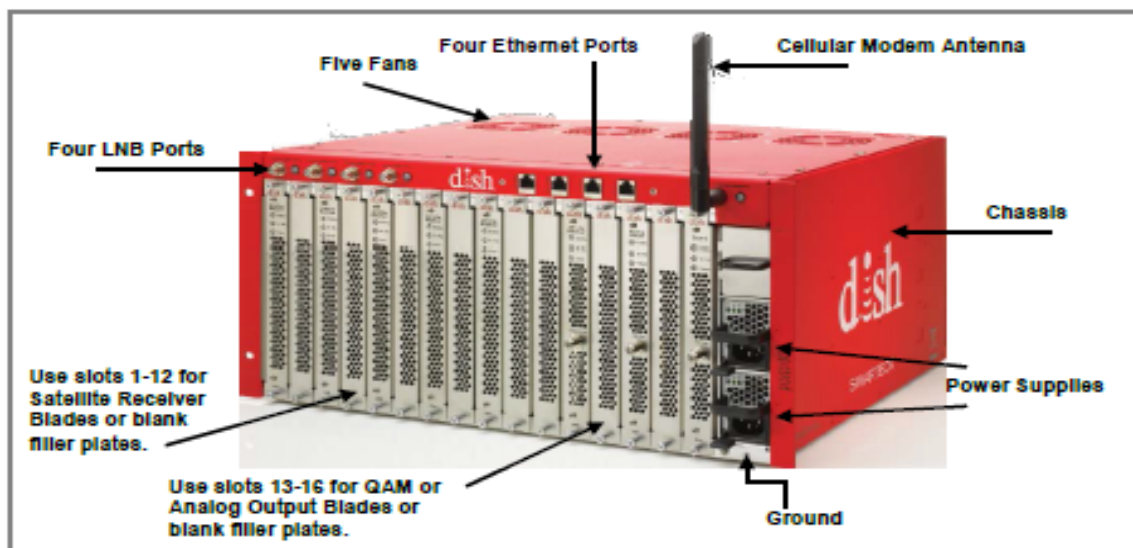
- **Signal reception** – smartbox uses a single common set of assets to receive DISH satellite signals. The Satellite Receiver Blades then send TV channels or transponders to the backplane in the chassis for distribution by one or more Signal Output Blades.
- **Signal output** – multiple options for video output are available and can be configured in any combination because smartbox architecture has no inherent capacity limitations.

- **Operational modes** – all operational modes must be activated by DISH Feature Enabling Codes or they will not function. Please see page 3 for the complete list of modes.

SMARTBOX Components

The modular design of smartbox, comprising multiple components, provides great configuration and installation flexibility. Please see the illustration below for the location of key components.

- The chassis replaces all multi-switches, most cables and communicates with the DISH Network Operations Center through the 3G cellular modem.
- Five large, top-mounted fans pull cool air through the front panel to provide integrated cooling to the system, improving reliability – without the need for an expensive, climate-controlled environment.
- **Four LNB Ports** – satellite input (three ports for Eastern Arc or Western Arc and one port for International programming).
- **Four Ethernet Data Ports** – the first data port is for user management; the second, third and fourth data ports are for video input (property-generated content) or video output.
- **Cellular Modem Antenna** sends signals to the DISH Network Operations Center so DISH and the Retailer may monitor and manage the system in real time.
- **Fully redundant power supply delivers 600 watts of power**; energy costs are a fraction of traditional headend systems.
- **Input Blades**
 - **Satellite Receiver Blade** – eight tuners provide eight channels of TV service per blade. Up to 12 blades may be installed in a single smartbox for 96 total channels. Each blade has two Smart Cards and two ProCams which are authorized in the same manner as a normal DISH receiver.
 - **Advanced TV Systems Committee (ATSC) Receiver Blade** (not pictured) – provides up to eight off-air local TV stations.
 - **Transcoder Module** – may be added to a Satellite receiver blade, if needed, for certain output modes such as conversion to MPEG2 for HD-Over-Coax installations and servicing MPEG-2-only TVs.
- **Output Blades**
 - **Quadrature Amplitude Modulation (QAM) Output Blade** – as a modulation format used to deliver digital content over coax, QAM will output digital streams over a completely agile QAM carrier, with options for attenuating output. DRM encoding can be added as needed per location and TV type application.
 - **Analog Output Blade** – outputs an Analog Audio/Video signal that can be used with all Analog-capable TVs. This output acts in the same manner as our current analog headend.



SMARTBOX Modes

Because different property types have varying programming constraints, smartbox offers the ultimate in flexibility by providing multiple modes which can be enabled simultaneously.

- Digital Rights Management (DRM) modes
 - Pro:Idiom[®] – video encryption technology used by the hospitality industry to protect HD content in hotels. A smartbox will encrypt the video with Pro:Idiom and TV or set back box will decrypt the signal in the room at the TV.
 - Verimatrix Video Content Authority System™ (VCAS) – the U.S. hotel industry has adopted this encryption technology primarily for video on demand (VOD). To keep licensing costs lower, VCAS is used for FTG programming that is used for VOD property wide. A smartbox will encrypt the audio/video programming in VCAS and the TV or set back box will decode the video in the room at the TV. An additional Key Server will be needed since only the VCAS encryption is implemented in the smartbox.
 - HD Over Coax – using existing coaxial wiring, this transcoding technology allows analog HD video to be converted to digital video. This method contains no encryption, but does provide watermarking. Certain content or property types, such as Premium channels and hotels, are not approved for this type of content distribution.
 - Digital Upgrade (DISH QAM) – similar to current QAM methods, the smartbox receives the satellite signal and simply passes it through a QAM carrier without decrypting. At the TV, a QAM-capable DISH receiver decrypts the video for display on the TV. Please note: this functionality will not be available on June 13.
- Output modes
 - Analog – smartbox can function as an analog headend and replace today's SMATV headends by receiving, modulating and distributing between eight and 72 channels of video and outputting RF over the coax distribution system.
 - QAM – DRM is used in conjunction with QAM to protect the content being delivered.
 - IP Network – using this video distribution method in conjunction with DRM protects the audio/video content being delivered.