

Video Solution from Innovative Systems

The InnoStream™ hardware system provides a turnkey video service supported exclusively by Innovative Systems.

Multi Generation TV

MG-TV leverages the latest technology with a complete pay TV option that you can brand as your own. MG-TV is suited to fit your customers lifestyle by delivering IPTV, Live Streaming, or both in a hybrid solution.

Multiple Video Solutions - On One Platform

InnoStream™ gives you a carrier grade system with software that is written, developed, and supported by Innovative Systems.

- Video Middleware
- Restart TV
- cDVR
- Video on Demand, Subscription VOD, C3 VOD
- HLS OTT Packaging
- InnoCryption Encryption Service
- Forward Error Correction
- Channel Guide Data
- Ad Insertion



Video Monitor

- Monitors Video Streams from the headend to detect video and audio issues

Live Testing Lab

As a trusted partner, you have our pledge that any new video software releases will be fully-tested on a live deployed system with over 200 streams of video, before it is released to you. Innovative Systems has a dedicated testing staff, and we also run our new releases in front the ultimate testers - our families!

MG-TV Customer Experience

- Restart TV
- Whole Home DVR
- Local Weather App
- Virtual Remote™ for Customer Care
- Universal Search
- Subscriber Adjustable Program Guide
- Integrated Caller ID Screen Pop
- Binge Mode Playback
- Video on Demand

MG-TV Live Streaming

- Live encrypted and unencrypted channels on popular devices, smartphones, tablets, and PCs.
- Lower entry cost than traditional subscription video
- Timeshifted viewing options available

Video Streaming

- Stream local videos to your Linear and HLS channels
- Program Scheduling

QUOTES

"Having the ability to quickly ramp up an app-based HLS video streaming product without more vendors and equipment makes the most sense, and that is why we chose the Innovative MG-TV solution as a replacement for our legacy cable system."

Jarrod Hardin, Foothills Communications, Staffordsville, KY

FMTC like many other providers, has received funding to provide more fiber, and we will offer them the MG-TV Live Streaming to new customers without the major expense of installation and STBs.

Kevin Cabbage, FMTC, Stanton, IA

Converting to the MG-TV linear IPTV solution, has made us more competitive with features like Restart TV, the Weather App, and What's Hot. Having several satisfied operators in our region who are using the Innovative Systems video service made the decision to switch easier.

Dave Sevrin, RCTA, Rockwell, IA

"The UEM feature allows us to monitor STBs, seeing an issue that a customer may be having. We can proactively address it before they know they are having a problem."

Brian Kettman, MTCO, Metamora, IL

"70% of our video trouble calls are handled using the Virtual Remote™, and when you have over 7000 set top boxes to manage, that is a huge money saver."

Andy Hulscher, Alliance Communications, Garretson, SD

Support Tools

Integrated Subscriber Management Tools Improve Support Efficiency

This single-vendor solution efficiently addresses customer service questions. Account management and diagnostic screens allow for quick provisioning and deployment of services with minimal training time.

Most subscribers have multiple set top boxes in the home, and the subscriber management system can automatically “ping” the subscriber’s STBs to quickly identify a STB that isn’t able to respond to the ping.

Easy Report Creation

Drag and drop reports allow administrators flexibility in creating customized data sets. The search parameters can be saved for future use.

Virtual Remote™



The majority of video issues your customers have involve the remote control. With the Virtual Remote™, your support team can take control of a customer’s remote and walk them through the program guide or help them change their settings, thus eliminating the need for a costly service call.

Backup/Restore STB Settings

These settings give service providers the ability to back up or restore all STB settings in the case of a DVR/STB swap out.

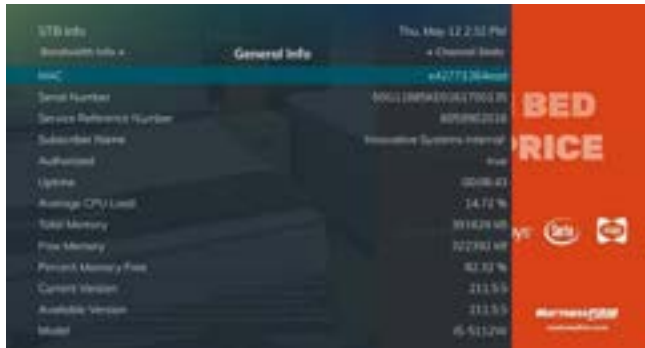


Channel Stats

This tool is used to determine peak times and days that your customers are viewing channels. Statistics are exportable to spreadsheets and graphs and useful for content negotiations and future channel additions or removals.

Channel	Jan 2015	Dec 2014	Nov 2014	Oct 2014
1. CBS	48,20	46,42	49,02	56,26
2. NBC	34,81	36,06	33,98	46,26
3. ABC	33,40	31,09	33,83	33,28
4. Fox/News	29,59	31,64	30,81	38,09
5. CNN	23,40	22,22	22,97	25,56
6. ESPN	22,27	2,28	1,08	12,96
7. Sports Channel	16,17	0,14	4,79	11,25
8. TV Land	9,82	9,68	10,74	10,96
9. Nickelodeon	9,60	9,89	7,50	7,39
10. Regional Sports Net	8,54	10,02	11,92	12,64
11. ESPN2	6,17	10,11	9,42	4,16
12. HBO	6,04	6,93	6,82	10,50
13. PBS	6,24	7,04	6,84	7,52
14. Paramount Network	6,23	7,58	10,82	12,96
15. ESPN3	6,13	6,02	10,12	6,81
16. NBC TN	5,89	6,33	6,73	8,81
17. USA Network	5,86	7,04	7,70	11,81
18. HBO	5,81	6,17	6,82	9,84

Support Tools



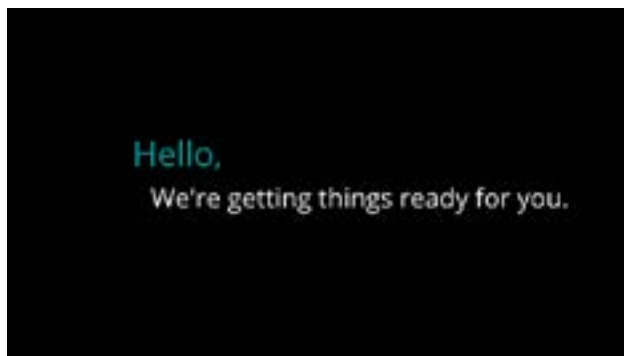
STB Audit

This audit assists operators in knowing the health of their deployed STBs. STB Audit confirms channel package authorization, verifies MAC address, reports versions and counts, and reports on health status of the hard drive.



System Messaging

Operator messages (pop-up or crawl format) can be sent to all STBs or a specific group to let your customers know about outages and channel lineup changes. Use System Messaging to market new features, or use it on a single channel for channel outages or content negotiations.



Boot-up Trouble Screens

These screens will only appear if trouble occurs. Potential problems could be waiting for address (no network connection or no DHCP server), no time server or no SI stream, or incorrect DHCP parameters.

STB Stats App

These applications allow technicians to view STB information, monitor metrics, and control STB WiFi operation remotely in order to save operator time, expenses, and resources.



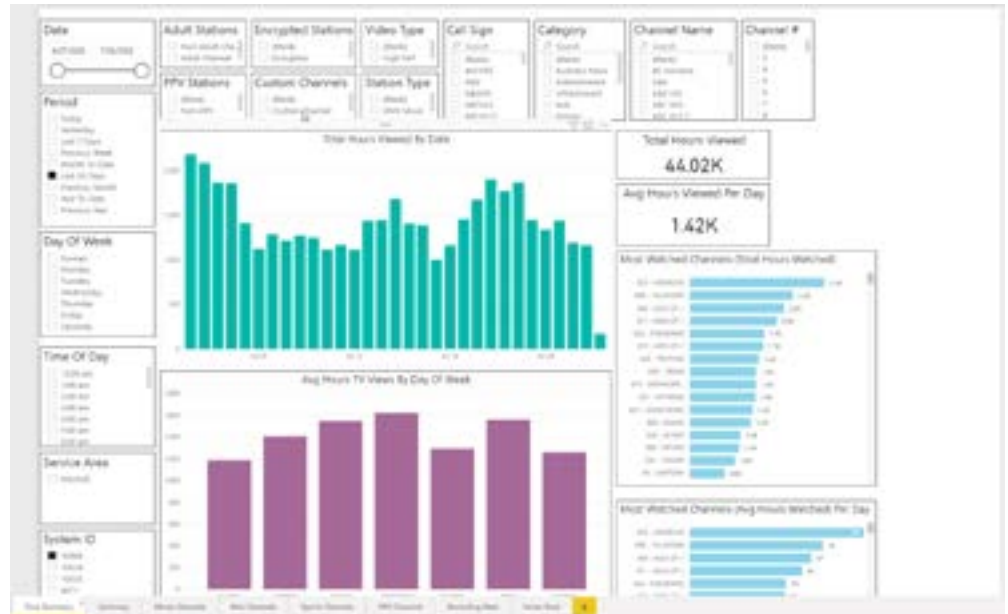
Proactive Support Tools

Central Reporting Server

This Windows-based service automatically downloads and preprocesses log files and delivers e-mailed reports at scheduled times.

Why do you need Central Reporting Server?

- Makes the Report Viewer work faster so there is no waiting for files to download, and log files are already preprocessed for reporting needs.
- Delivers reports at defined intervals



User Experience Monitor (UEM)

Service providers can view data from the STBs in their network that pertain to different events or feature utilization.

Potential Data and use-case scenarios:

- View the number of times applications or other features are used on STBs in a specific area.
- View problems that customers are having but not reporting.
- Run reports to show
 - Hard drive health
 - Disk drive errors

InnoSafe

Do you have a backup plan?

- Benefits of InnoSafe
- Backs up both APMAX and InnoStream units automatically each week
 - Runs in the background
 - Stores the backup off-site to a secure global cloud infrastructure
 - Automatically sends an e-mail with the backup status
 - Hard drive health
 - Disk drive errors
 - SI discontinuity errors
 - Number of reboots and last reboot details

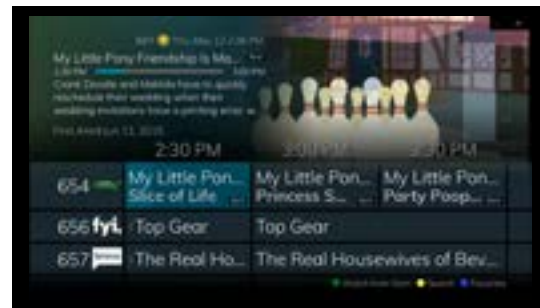
User Features

MyTVs Application



With the MyTVs app, subscribers can view guide data, search programming, manage recordings, or use their iOS and Android devices as a remote control. MyTVs allows second-screen viewing on your iPad. They can manage their linear programs or watch available streaming channels. Available in the Google Play Store and Apple App Store.

Customers Can Customize the Program Guide



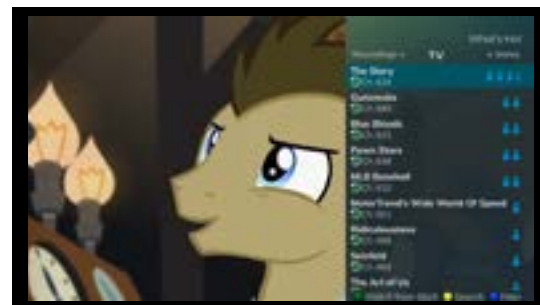
Subscribers can control the number of rows, columns, and text size of their program guides. They can also set their default guide to a full screen guide or a corner screen guide. This differentiating feature allows for guide sizing which accommodates different size TV screens.

Restart TV



Your subscribers will have flexibility in their TV viewing with Restart TV. It allows them to restart programming already in progress. Pause Live TV is an added feature that provides DVR functionality on every STB.

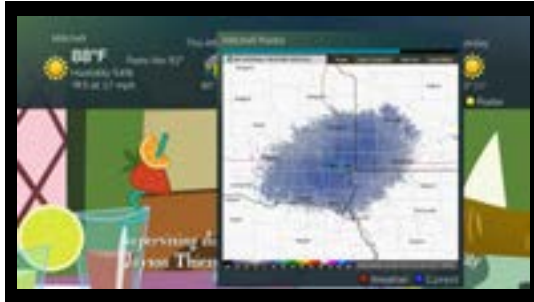
What's Hot App



The What's Hot app gives users real-time information about what others in their area are watching. Use Restart TV to view or record the most watched TV programs, Recorded Programs, and Series Recordings in their service area.

User Features

Weather App



Current weather conditions and forecasts as well as animated radar are one button away with the Weather App. Weather data from NOAA XML feeds, and Canadian government weather stations are supported.

Now Playing Feature



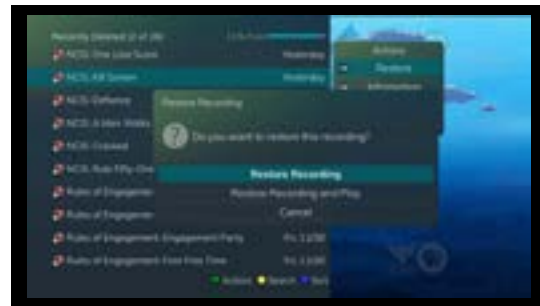
Give your subscribers a quick snapshot of what's happening on their video service; all they have to do is press OK on the remote.

Binge Mode Playback



Subscribers have the option of playing the next episode of a series recording without having to go back to the recording list.

Restore Deleted Recording



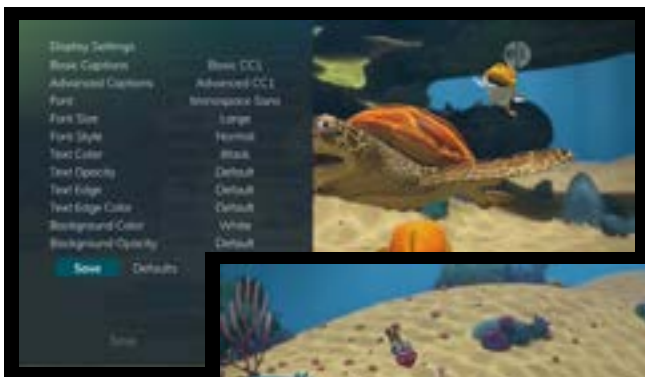
Subscribers have the ability to restore deleted recordings from a Cloud DVR.

User Features

Universal Search



Users can click on a program in the Guide and hit the Search (Yellow) button to see a listing of the same show from Recordings, On-Demand, and TV Airings. You can even go back in time in the Guide to search for a program you just missed. The Title Search feature allows users to search for programming based on key words in titles and actors as well as save your favorite searches for future use.



Advanced Closed Captioning Settings

Users can change the look of the Closed Caption display on their TV.



The video hardware and software from Innovative Systems does a great job of bringing OTT centric features into our subscription video service, and when they have a new feature for us to deploy, it just works.

Jason Miller, General Manager, DTC Telecom, Delhi, NY

Video Monitor

Monitor Video Quality

This solution monitors video channels in real time. With a technical interface and a CSR/Support facing dashboard, this solution keeps you aware of the quality of your video service. Middleware customers of Innovative Systems can easily import their channel lineups into the Video Monitor. This solution will work with any Middleware vendor.

How It Works

Specific parameters that affect the quality of your video streams can be selected by your technical group, and if a video stream falls below any of these parameters, an alarm will display in both the technical and CSR/Support interfaces. This service can also be configured to e-mail notifications regarding alarms. The system will check every "x" minutes and e-mail any alarms that are active at the check interval.



Historical Technical Data

The likelihood of short intermittent video issues can be problematic, and Video Monitor gives you the ability to create exportable channel reports with a couple of mouse clicks.

Video Streaming

How It Works

Transport Stream videos can be uploaded to the Video Library, and then single or multiple video files can be assigned to a specific video channel. These videos can be scheduled to play at a specific time on their designated channel. With MGTV Video Solution from Innovative Systems, the video title and description will appear in the on-screen Program Guide.

Stream to Your Channels

Deliver video streams efficiently with a user-friendly interface that allows you to load Transport Stream files and stream them to specific channels. The service will automatically convert most video file types to the required TS format.

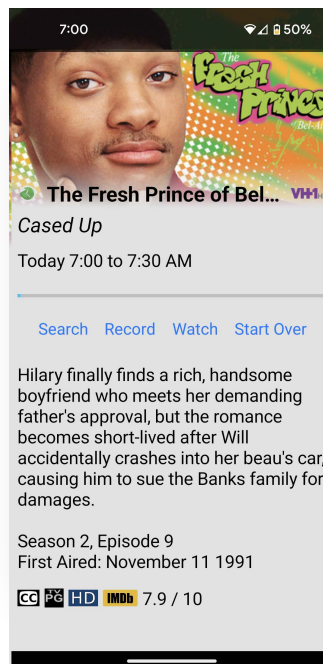
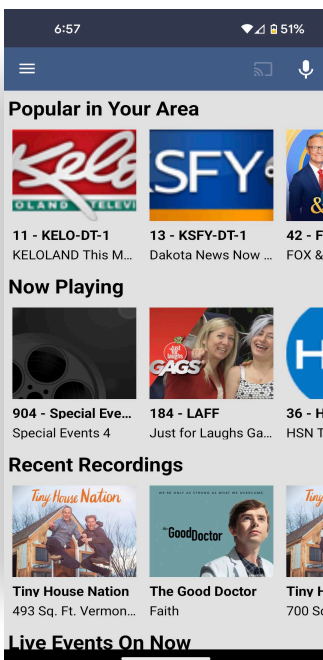
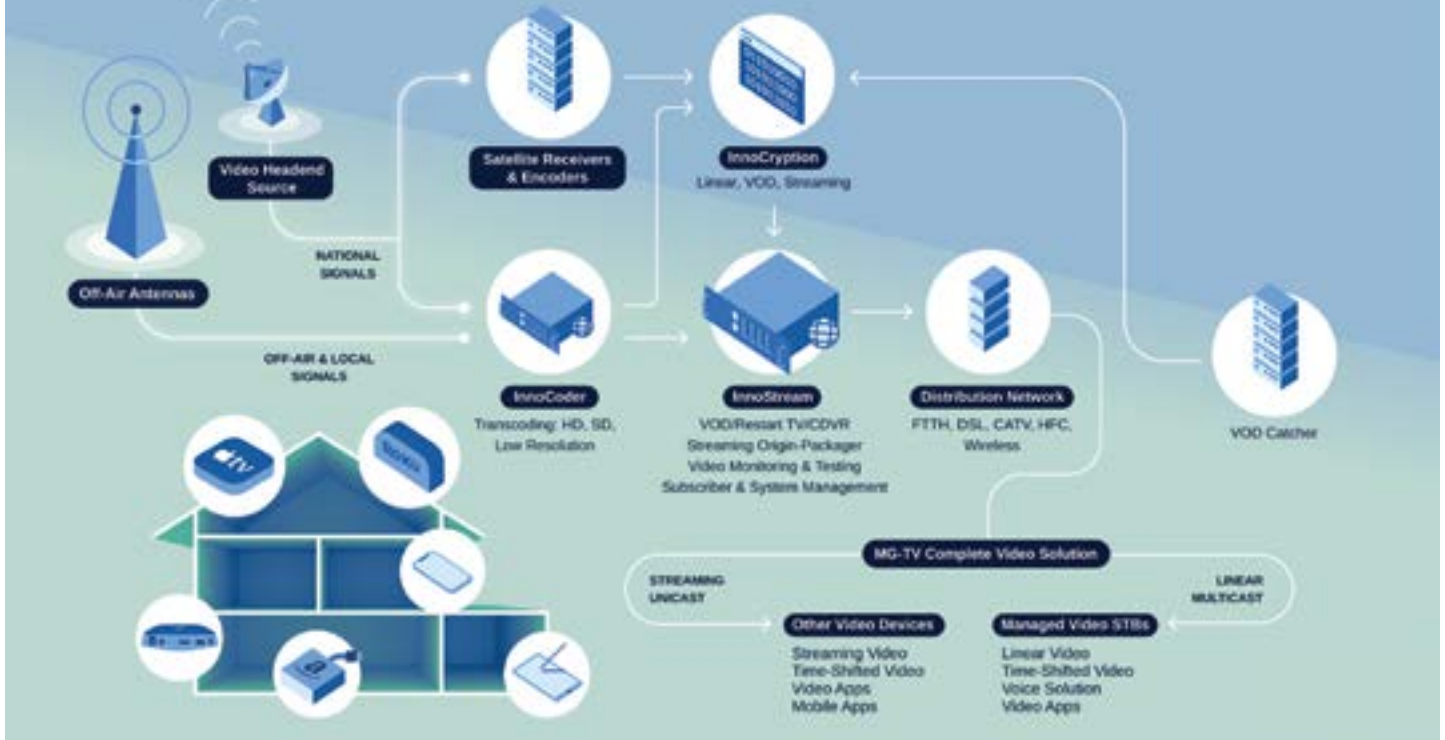


Application Examples

- Help videos from Innovative Systems
- Governmental meetings
- Local sports and events
- Service provider promotions
- Service provider board meetings
- Community access content

MG-TV

MG-TV provides the functionality desired by consumers today without alienating end-users that desire a more traditional interface and remote controls. It includes service provider options for a conventional video solution, Live Streaming, or both - on one integrated platform.



The MyTVs application brings the MG-TV linear video and streaming into one app.

Live Streaming

Consumers are watching more video than ever. The lines have blurred around how they receive their video, the experience is more important.

Responsive Program Guide



Customers used to the MG-TV IPTV guide will be hard-pressed to notice the difference.

- Lighting-Fast Scrolling
- Intuitive Menus
- Voice-Activated Search
- Linear or app-Based Navigation

No-Touch Customer Care



Lengthy video installations are over! Your customers can self-install their devices.

- Consumers can bring their Own Devices
- In-Home New Device Activation
- Deliver App and Credentials Electronically

Device Options

Bring Your Own Device

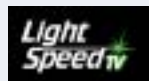
Let customers choose their own device.

- Apple TV
- Android TV
- Amazon Fire TV
- Roku
- Phones and Tablets

Mobile Recording Management

Using the MyTVs, App customers can set and manage their recordings anyplace-anytime.

- Consumer downloads the app from app store
- Customizable App Icon



IS-5045W6

For customers who desire a traditional remote without having to change TV inputs.



- Support MG-TV IPTV and MG-TV Live Streaming in Routed Mode
- Smaller Form Factor Compared to other STBs
- Built in Support for RF Remote controls
- CEC Automated Input Switching with supported television

InnoStream Server Platform

Everything you need on One Platform



The one-platform InnoStream™ from Innovative Systems, provides more critical services than any other video vendor.

Redundancy

- Dual Control Servers
- Media Content Diversity
- Redundant Power Supply per Server

Intelligent Replication

- Multiple options for customer content duplication and protection per Server

Fault Resilient

- No single failure takes the system down
- Expansions can happen on live servers
- Disks can be hot swapped without system outages
- InnoSafe stores an additional backup off-site to a secure global cloud infrastructure

Scalability

- An InnoStream™ System includes two units with integrated control and up to 432 TB of Storage
- Additional System shelves can be added as you grow



"Our proximity to a metropolitan market requires that we deliver a video product like MG-TV that can compare feature-wise with national cable providers."

Matt Knegendorf, Baldwin Lightstream-WI

Services Available on the InnoStream Server Platform

Video Middleware

The best customer experience in the industry includes guide data, apps, recordings, and mobility.

Cloud DVR (cDVR)

This network-based storage does not require a home DVR. Save on DVR expenditures, reduce truck rolls, and eliminate STB installation expenses. Teamed with Lookback TV, recordings can be started at the beginning that allows DVR watchers to not miss a second of the show.

Video on Demand and C3

VOD provides your viewers a Netflix-like experience and further differentiates your VOD service with local content.

Lookback TV

Subscribers can “Lookback” up to 72 hours and view just missed TV. Restarting live shows in progress and pause live TV are also part of this feature set.

Ad Insertion

An application that inserts local advertising in channel content and provides advertisers to target local ads based on geographical location. Enhanced Ad Insertion allows a seamless transition from content to ads for over-the-top, live and on demand streaming service.

InnoCryption

This systematic approach to Conditional Access (CA) and Digital Rights Management (DRM) for digital media uses the foundation of Secure TV and integrates into our Middleware product by using the InnoStream platform.

Streaming Packager

This service is necessary if you want to provide your subscribers live TV streaming over your managed data connection.

Enhanced Guide Data Processing

Enhanced Guide Data Processing provides greater poster coverage, advanced guide data, reduction of a vendor relationship, and a simple, straightforward pricing model.

IS-5045W6 STB

Building on the success of the IS-5041W, we offer a powerful new STB that still has a smaller footprint with numerous added benefits.



We Listened

The entry into the STB marketplace was generated by customer demand for additional options and increased reliability in Wi-Fi deployments.”



Features

- Routed Mode supported for Live Streaming deployments
- Access Point Mode for Wireless Deployment
- Modern Memory - 1 GB DDR4 and 8 GB eMMC
- Many existing IS Middleware features Supported

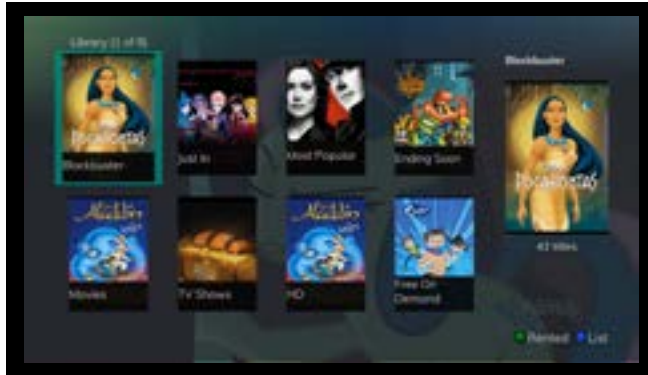
- Restart TV, cDVR, PLT, and more
- Small Footprint: 4.25" x 4.25" x 1"
- Ports: S/PDIF Optical Connector, HDMI 2.1 with HDCP 2.2/2.3, USB 2.0, RJ45 Ethernet, and AV



The Innovative Systems Set Top Box allows Norvado to deliver our new streaming service and the customer will have the same remote and guide interaction that they have had with their IPTV service.

Leo Carlson, Norvado, Cable, WI

MG-TV Set Top Box Facts



STB Features

- Deliver 4K content with supporting STBs
- Integrated WiFi for OTT Applications



STBs Supported

- Innovative Systems: IS-5112W, IS-5041W, IS-5045W6
- Amino (Entone): 130, 530, 140, 540, 150, 550, and 5050 (LIVE), Kamai 500, Amulet 505, Kamai/Amulet 65X, Kamai/Amulet 45X, Kamai 7B and 7X
- ADB: 3800, 2721W, 2721WX, 3721, 5721, 1720W, 1761W, and 1761WF



We believe that video will eventually transition over to an all-streaming delivery, and the IS-5041W will allow customers to use the same remote and STB regardless of how video is delivered to them.

Jayson Keiper, Comm1, Kanawha, IA

Enhanced Video Features

Voice Activation

Integration with Alexa, the Amazon Echo device, as well as the Google Home device allows subscribers to use voice activation to request a channel change or search for programming through smart home speakers.

Through the MyTVs app on iOS and Android Smartphones, subscribers are able to request a channel change, search programming, play a recording, or complete many other important remote control functions.

- Voice Commands
 - Change Channels
 - Search Programming
 - Recording Control



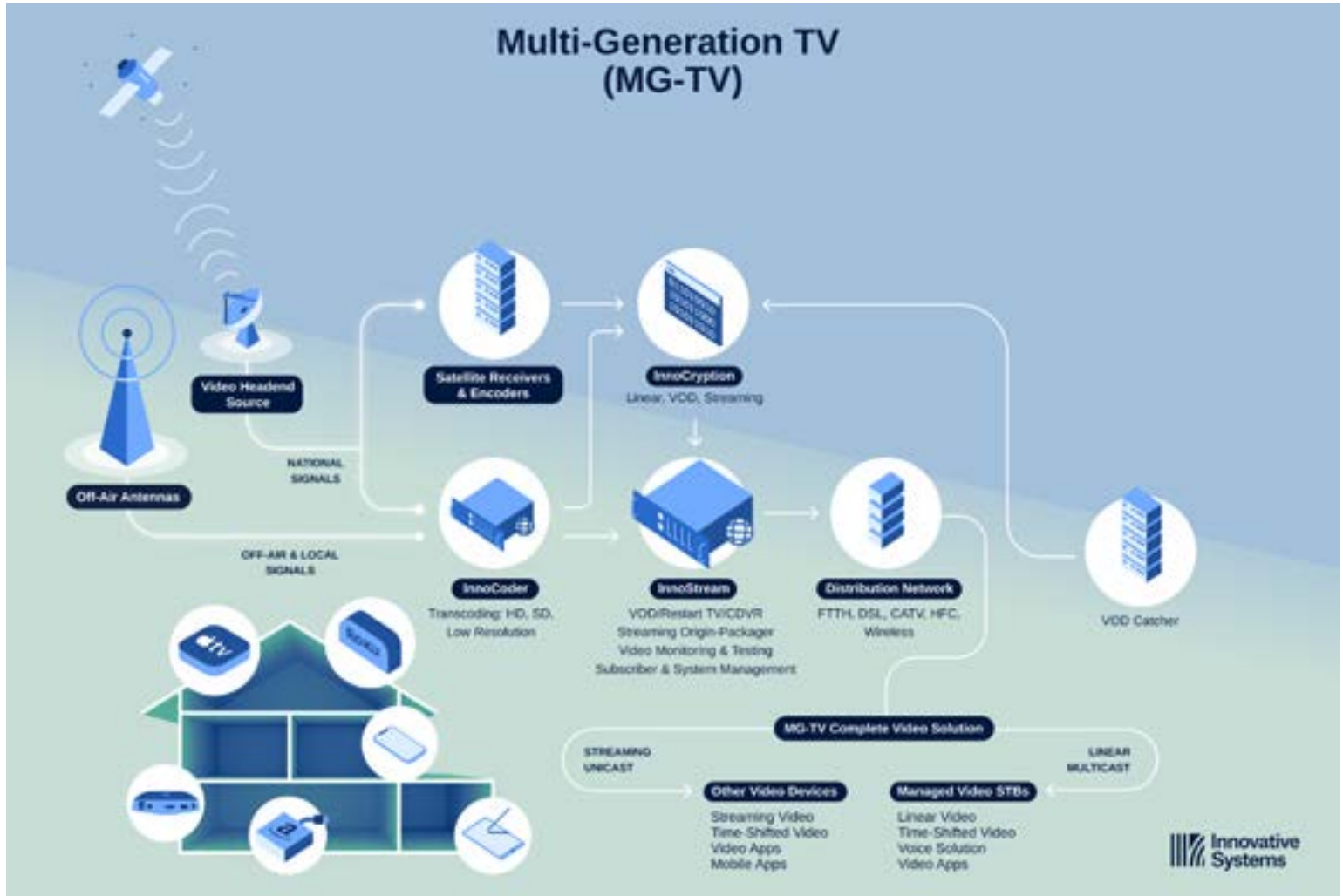
Marketing Materials Included

- Tutorial Videos for your website or an Educational Channel
- Remote Control Tri-Fold Brochures
- DVR Tri-Fold Brochures
- User Guides

InsinQ Voice Command Remote Control

- Responds to over 20 Common Commands
- Supports the IS 5041W and IS 5112W STBs





MG-TV Hosted Live Streaming

The MG-TV Live Streaming solution designed for service providers interested in eliminating headend costs when providing a competitive go-to market streaming video solution for your customers.

In partnership with experienced and respected international headend provider MVS, Innovative Systems provides the middleware solution without the expense of operating a headend.



InnoCoder T-40 Encoder/Transcoder

Commercial grade platform offering real-time encoding and transcoding into industry standard formats.

The InnoCoder T-40 is designed to support all IPTV Middleware, and streaming platforms, as well as other video applications and is a scalable solution that will fit your needs now and in the future.

Linear & ABR Encoding /Transcoding

- Encode / Transcode
- Simultaneous Interaction with ABR & IPTV Solutions
- ABR Profiles (Maximum Six Profiles)
- Bandwidth Consolidation DTA-VBR to CBR
- Music Channel Encoding to ABR Formatting

Innovative Systems Difference

Proven Track Record in Converting Service Providers from Other Vendors



Our hardware and software is deployed in a live video headend located in-house building which allows real-world testing on new software before it is ever released to our service providers!

Subscriber / Service Provider Benefits	MG-TV	The Competition
Single Vendor Support For your Middleware, STBs, Restart TV, VOD, nDVR, Encryption, Live Streaming, and Guide Data	YES	NO
Virtual Remote™ Remote control troubleshooting performed from your office	YES	LIMITED
Channel View Stats With no additional equipment or vendor	YES	NO
What's Hot App Real time info on the most-watched programs in your service area	YES	NO
Local Weather Integrated into Browser, Guide, and full App View with no extra Hardware or Vendor	YES	NO
Configurable Guide By STB for size of fonts to fit the user's needs	YES	NO
High Reliability Fully redundant hardware	YES	NO
Free Marketing Materials Plug and play tutorial videos as well as DVR and Remote Control tri-folds to educate your customers	YES	NO



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