Used by cable operators worldwide, the Challenger Platform’s modular design utilizes proven state of the art enhanced DVB technology for the deployment of SD and HD MPEG2 & MPEG4 digital video to the subscriber. Open systems based, the Challenger Platform supports linear video, PVR/DVR, PPV, and VOD.

Infrastructure Compatibility
Built from the ground up, the Challenger Platform was designed to ease the transition from analog to all-digital CATV. The Platform is DVB simulcast ready and fully compatible with existing coax, fiber, microwave, and MMDS transport systems that are in operation today.

Transitioning from legacy hardware provided by Motorola or Cisco equipment is easy and cost effective. The CATV operator has the scalability and freedom of DVB technology; your return on investment will take less than two years in most cases. TVS delivers a working system with all costs known at time of purchase — from the Headend to the STB. It's easy to calculate the cost per household to provide the digital upgrade.

Field Tested Platform
Field tested and currently deployed, the Challenger Platform significantly improves the management of video content with a combination of multiplexers, processors, and components that have been designed to reduce costs, improve reliability, and redundancy using less equipment than other system designs. It is flexible, modular, and practical. The Platform includes:

The DRM-QS -- designed for high capacity, Off-the-Air (OTA) multi program transport streams. The DRM-QS Platform contains inputs that support both 8VSB and QAM MPEG-2 or MPEG-4 programming. Its flexibility comes with multiple RF and ASI IP outputs for the distribution of Digital Video over Cable and Fiber to the end user or the additional Headends.

- Supports all HD and SD Video Formats
- Supports all DVB Modulation DVB-C Annex-A, B, C
- Modern DVB Conditional Access System, EPG-SI Server and Subscriber Management System
- Open Standards Based for Reduced Equipment Costs
- Increased Revenue and Lower Churn
The Challenger™ a Field Tested Platform

The DSM-QS -- designed for high capacity satellite, multi-program transport streams. It contains inputs that support both DVB-S or DVB-S2 Tuner Demodulators, MPEG-2 or MPEG-4 programming and has four RF carriers for the distribution of Digital Video over Cable and Fiber to the end user or the additional Headends.

The DTM-QS -- all-in-one de-multiplexer/re-multiplexer scrambler, and is extremely energy efficient and capable of processing high capacity, single and multi program transport streams. The Model DTM-QS has eight ASI inputs to accept hundreds of MPEG-2 and MPEG-4 programs from digital sources. These sources would typically be digital satellite receivers, MPEG encoders or upstream multiplexers, HITS PODs, or other MPEG transport streams. The transport stream can be any stream source containing single or multiple programs (up to 8 sources). The programs can be composed of standard or high definition video and MPEG or AC3 audio.

The Challenger conditional access system (CAS) is a modern version of time proven technology that has been implemented by old guard companies such as Conax, NDS, Nagra, etc. The conditional access system, Subscriber Management System (SMS), Electronic Program Guide and Service Information (EPG-SI), and controller was rewritten from from the ground up to take advantage of a single modern low cost server while being able to support legacy CAS using Simulcrypt as they reach end of life.

The advanced design of the Challenger uses fewer components reducing power and heat, ultimately leading to more reliability and savings. TVS can also login remotely and provide configuration and system troubleshooting and upgrades.

TVS CAS is a modern version of the time proven DVB standard. This modern system allows for upgrades to multiple media access types; such as SmartCard, SD-Cards, Micro-SD cards and high capacity solid state storage media.

Challenger DTM-QS
De-Multiplexer/Re-Multiplexer

Contains eight ASI inputs to accept hundreds of MPEG-2 and MPEG-4 programs from digital sources into four QAM Carriers.

Challenger DSM-QS
High Density Satellite Transmodulator
De-Multiplexer/Re-Multiplexer

Converts Eight DVB-S/DVB-S2 L-Band RF Inputs into 4 QAM Carriers.

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Each QAM Mux Features:

- Full front panel systems visibility via LED monitor lights
- EAS supported by via SCTE-18 featuring STB forced tune or crawl overlay
- Each unit has four 64/256 QAM Modulators and Scramblers
- Simulcrypt Interface
- Grooming & Multiplexing Supports Closed Captioning

Subscriber Management System

TVS offers an easy to use and powerful subscriber management system (SMS) with the Challenger System. The SMS is easily accessed by the operator to add customers, upgrade service packages, change services, and perform billing. The SMS is also expandable to manage cable modems, VOIP, PPV, VOD, and carrier class. The system also supports advanced marketing programs such as prepaid cards, consumer online account look up, and consumer online bill pay. It also aids in asset management with serial number, address number, and firmware version tracking. Most major SMS vendors already support the TVS Headend system. It is an operator choice.

Electronic Program Guide

The system downloads and maintains 7 days of EPG information available to the subscriber using the on-screen guide.

Emergency Alert

Emergency Alert (EAS) meets the US government standards and interfaces directly to Trilithic and Monroe EAS systems.

System Integration

TVS works with the customer with an integration plan. We do this by first determining the number of programs and services the operator would like to carry and where the programming is coming from.

TVS provides a questionnaire to determine the system configuration needed and, from that, derives an implementation plan. As soon as price and a delivery date are determined, the system is configured and shipped. TVS stays with the customer through completion of the project and beyond. It is surprising the costs savings that are passed on to the operator by using this simple integration plan.

Compliance

The Challenger Platform meets or exceeds FCC requirements for separable security for set top boxes via conditional access card. TVS uses 100's of patents and technology from the MPEG-LA, Dolby, and other licensors from the open MPEG and DVB License authorities. These fees place all legitimate DVB suppliers on an open, even, and fair price schedule, unlike proprietary systems.
Used by cable operators worldwide, the Challenger Platform's modular design utilizes proven state-of-the-art enhanced DVB technology for the deployment of SD and HD MPEG2 & MPEG4 digital video to the subscriber. Open systems based, the Challenger Platform supports linear video, PVR/DVR, PPV, and VOD. Infrastructure Compatibility Built from the ground up, the Challenger Platform was designed to ease the transition from analog to all-digital CATV. The Platform is DVB simulcast ready and fully compatible with existing coax, fiber, microwave, and MMDS transport systems that are in operation today. Transitioning from legacy hardware provided by Motorola or Cisco equipment is easy and cost effective. The CATV operator has the scalability and freedom of DVB technology; your return on investment will take less than two years in most cases. TVS delivers a working system with all costs known at time of purchase — from the Headend to the STB. It's easy to calculate the cost per household to provide the digital upgrade. Field Tested Platform Field tested and currently deployed, the Challenger Platform significantly improves the management of video content with a combination of multiplexers, processors, and components that have been designed to reduce costs, improve reliability, and redundancy using less equipment than other system designs. It is flexible, modular, and practical. The Platform includes:

- **DRM-QS** — designed for high capacity, Off-the-Air (OTA) multi-program transport streams. The DRM-QS Platform contains inputs that support both 8VSB and QAM MPEG-2 or MPEG-4 programming. Its flexibility comes with multiple RF and ASI IP outputs for the distribution of Digital Video over Cable and Fiber to the end user or the additional Headends.

System Block Diagram

**Highlighted Features**

- The Challenger Platform is transport neutral.
- TVS will handle any content from any source.
- Input direct from programmers via satellite analog or digital sources.
- Off-the-Air HDTV 8VSB.
- Content Aggregators such as HITS or Avail Media.
- Standard Definition or High Definition.
- MPEG-2 or H.264
- Dolby, AAC, or MPEG I layer II audio.
- DVB standards allow for low cost STB hardware.
- State-of-the-art STB's with a continuing variety of new features.
- Low cost SD STB's.
- HD PVR's.
- VOD PVR's.
- Hybrid STB's with both RF and Ethernet inputs. As competition changes you can change. If and when IP becomes in vogue the operator can adapt to changing technologies.