INTRODUCTION

For over 30 years Newtec has developed satellite communication equipment and technologies for broadcast, government and defense, backhaul and trunking, consumer and enterprise VSAT and mobility markets. Our dedicated team meets industry standards with efficient, scalable and economical solutions. Through our expertise and in cooperation with our customers we make the world a safer, more informed and connected place.

This product binder provides you with an overview of the Satcom equipment, platforms and OEM boards we bring to the market and lets you quickly see the advantages, applications and technologies of each of our products.
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**MDM2210**  
**IP SATELLITE MODEM**

**Description**

The Newtec MDM2210 IP Satellite Modem is a wideband DVB-S2X two-way, high throughput modem. It is combined with a range of different antenna sizes and interactive LNMs forming a cost-effective satellite terminal on the Newtec Dialog platform. Its ease of installation and high performance modulation techniques enable network operators to offer IP broadband services in a cost-effective way.

**Advantages**

- Low initial investment per user, thanks to a cost-efficient terminal and unique Point&Play easy-installation capability
- Easy to use multilingual web GUI for installation, diagnostics and troubleshooting
- Adaptive return link based on different MF-TDMA modulations/coding and multiple channel bandwidths
- High service satisfaction ensured through true broadband experience
- HTS ready through wideband DVB-S2X support up to 500 Mbaud in the forward link
- Optional Wi-Fi and advanced routing support
- Support for single cable outdoor units
- High throughput, up to 100/5 Mbps, 10 Mbps after future Newtec Dialog upgrade

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**Applications**

- **INTERNET / INTRANET**
- **SCADA**
- **POINT OF SALE**
- **SCHOOL NETWORKS**
- **TELEPHONY**

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**MDM2510**  
**IP SATELLITE MODEM**

**Description**

The Newtec MDM2510 IP Satellite Modem is a two-way, high throughput modem supporting a wide range of services including Internet/Intranet access, Voice-over-IP (VoIP), backhauling, contribution and multicasting. It is compatible with a variety of ODU configurations.

**Advantages**

- HTS-ready through wideband DVB-S2X support up to 500 Mbaud in the forward link
- High throughput, up to 150/20 Mbit/s
- High service satisfaction ensured through true broadband experience
- MF-TDMA and Newtec-patented Mx-DMA return technologies
- Optional modulation and bandwidth allocation while guaranteeing highest efficiency and availability with Mx-DMA
- Easy to use, multilingual web GUI for installation, diagnostics and troubleshooting

**Related Technologies**

- Point&Play®
- FlexACM®
- DVB-S2X
- Acceleration & Compression

**Platforms**

- Newtec Dialog®
**MDM3310 SATELLITE MODEM**

**Description**

The Newtec MDM3310 Satellite Modem is a two-way, high throughput DVB-S2X modem supporting a wide range of IP services, including Internet/intranet access, VoIP, enterprise connectivity, backbones for backhauling, contribution and multicasting services. Its ease of installation and high performance modulation techniques enable network operators to offer various bandwidth-intensive services in a cost-effective way.

**Advantages**

- HTS applications through wideband S2X support in the forward link
- High throughput upstream and downstream capabilities
- SCPC, MF-TDMA and Mx-DMA return capability
- The most optimal modulation and bandwidth allocation while guaranteeing the highest efficiency and availability
- Bolstered with Newtec’s technologies FlexACM, ThiMM, Point&Play, HRC, Mx-DMA
- Easy to use multilingual web GUI for installation, diagnostics and troubleshooting

**Applications**

- FNG / SNG Live and File Contribution
- Backbone Connection
- Fiber Restoration
- Government & NGO
- VoIP Telephony

**RELATED**

- Technologies
  - Point&Play®
  - FlexACM® (including ThiMM)
  - Mx-DMA®
  - HRC®
  - DVB-S2X
  - Acceleration & Compression
- Platforms
  - Newtec Dialog®

**MDM5010 SATELLITE MODEM**

**Description**

The Newtec MDM5010 Satellite modem is the very high throughput modem capable of handling more than 500 Mbps of traffic. With a symbol rate ranging from 1 up to 500 Mbaud and coding from QPSK to 256APSK in the forward channel, it enables network operators to set-up almost any type and size of network on any available type of satellite – for example, traditional FSS, next generation High Performance Satellites, HTS. The Newtec MDM5010 Satellite Modem supports a wide range of IP Services including internet/intranet access, Voice over IP (VoIP), backbones for mobile backhauling and trunking, fibre restoral/backup services, contribution and multicasting services. The high spectral efficiency, high packet and bit rate capability makes the MDM5010 a perfect fit for very bandwidth-intensive services in the enterprise, backhauling, offshore and maritime markets.

**Advantages**

- High throughput upstream and downstream capabilities
- DVB-S2X forward
- SCPC, MF-TDMA and Mx-DMA return capability
- The most optimal modulation and bandwidth allocation while guaranteeing the highest efficiency and availability
- Bolstered with Newtec’s technologies FlexACM, ThiMM, Point&Play, HRC, Mx-DMA
- Built-in TCP acceleration, GTP optimization/acceleration, compression, packet aggregation and encryption
- Easy to use multilingual web GUI for installation, diagnostics and troubleshooting

**Applications**

- Mobility, Offshore & Maritime
- VoIP Telephony (SIP, H.323, …)
- 2G/3G/Rural Cellular Backhauling
- Backbone Connections, Fiber Restoration
- FNG / SNG Live and File Contribution

**RELATED**

- Technologies
  - Mx-DMA®
  - DVB-S2X
  - FlexACM® (including ThiMM)
  - Point&Play®
  - HRC®
- Platforms
  - Newtec Dialog®
### MDM6000 SATELLITE MODEM

**Description**

The Newtec MDM6000 Satellite Modem is a versatile high performance modem which allows service providers and government operations to increase the amount of services or the customer base within the same bandwidth. At the same time it introduces ways to reduce OPEX costs and increase the profitability of their business at maximum efficiency and optimum availability.

**Advantages**

- Efficiency at the core
- Optimal availability
- Flexibility and scalability matching the market’s business
- Built-in bandwidth cancellation
- Very granular licensing scheme for applications in low rate, medium rate, backhauling and high rate trunking
- Flexible on-board packet processing such as QoS, shaping, bridging and routing
- Very high throughput and packet per second
- Support for DVB-S2 and DVB-S2X

### Applications

- 3G/4G/5G /ISP
- TRUNK
- FIBER
- RESTORATION
- ISP
- TELECOM SERVICES
- WIMAX

### RELATED

- Products
  - HUB6000 Satellite Hub
  - USS02×2 Redundancy Switch
  - FRC07x0 Frequency Converters
- Technologies
  - Clean Channel Technology®
  - Equalink® 3
  - DVB-S2X
  - Wideband
  - FlexACM®
  - Bandwidth Cancellation

### MDM6100 BROADCAST SATELLITE MODEM

**Description**

The Newtec MDM6100 Broadcast Satellite Modem is the next-generation DVB compliant modem specifically designed for broadcast applications. The modem supports the DVB-S2 and DVB-S2X, next to the legacy DVB-S and DVB-DSNG standards in order to achieve barrier-breaking efficiency. The unit can act as a MPEG Transport Stream modulator, demodulator or modem.

**Advantages**

- Support of the latest and most efficient DVB-S2X standard
- Highest system reliability and service uptime through robust design and industry leading redundancy solutions including TS payload stuffing detection
- Low total cost of ownership as a result of very high bandwidth efficiency technology options, and ease of monitoring and control
- Built-in support for opportunistic data insertion, via Multi Protocol Encapsulation (MPE) encap/decapsulator
- Easy integration with industry leading management systems (EMS/NMS/OSS)
- Safe investment as the platform supports advanced capabilities such as proMPEG FEC at the inputs and outputs, built-in transport stream analyzer, ECM/EMM messages monitoring and DVB & NIT Carrier ID
- Optional C-band or Ku-band outputs for compact earth station design
- BISS scrambling for contribution links
- Pay-as-you-grow flexible licensing scheme
- Future-proof design combining video and IP unicast and multicast multiservice capabilities, supports transport of today’s and tomorrow’s services
- Reduced adjacent channel interference for multi-carrier per transponder constellations
- Dedicated GUI for single stream and multistream applications
- Feature-based pricing and software upgrades
- 6 I/O configurable ASI ports
- Provides better link margin with Equalink 3 pre-distortion

### Applications

- DIRECT-TO-HOME
- DSNG
- BROADCAST CONTRIBUTION
- BROADCAST DISTRIBUTION
- EXCHANGE NETWORKS

### RELATED

- Products
  - M6100 Broadcast Satellite Modulator
  - FRC07x0 Frequency Converters
  - USS0212 1+1 Redundancy Switch
  - USS0202 Universal Switching System
- Technologies
  - Clean Channel Technology® provides up to 15% bandwidth efficiency gains on top of the DVB-S2 standard
  - Equalink® 3 pre-distortion provides up to 10% bandwidth gains, higher QoS and geographic coverage
  - DVB-S2X
**MCX7000 MULTI-CARRIER SATELLITE GATEWAY**

**Description**

The Newtec MCX7000 Multi-Carrier Satellite Gateway brings density in hubs and terminals on top of satellite link efficiency. This results in OPEX and CAPEX savings in a multitude of applications. Its density and the support of DVB-S2X gets its full value in distribution networks to towers or head-ends. It is also fit for broadcast contribution applications on standard and HTS spot-beam transponders or for dense DTH uplink stations. In closed video distribution networks, AES encryption of the baseband frames results in extra security on physical layer level.

**Advantages**

- Very high bandwidth efficiency, ease of monitoring and control leads to low total cost of ownership
- Highest system reliability and service uptime through robust design and industry leading redundancy solutions including seamless switching acc. SMPTE 2022-7 and single carrier switching in a multimodulator 1:1 MCX7000 configuration
- Future-proof design combining video and IP unicast and multicast multiservice capabilities, supports transport of today’s and tomorrow’s services
- Configurable as triple demodulator or as 1 modulator + 2 demodulators or as quadruple modulator
- Channel Bonding modulation for efficient UHD-TV DTH transmissions
- BISS scrambling and de-scrambling for contribution links
- Provides a dense solution in a redundant configuration
- Wideband up to 133 Mbaud
- AES encryption and de-encryption of DVB-S2 Baseband frames
- Fully manageable over-the-air via an in-band channel

**Applications**

- Broadband Distribution to Towers and Headends
- Broadcast Contribution
- Exchange Network
- DTH Network
- Closed Video Distribution Network

**RELATED**

- **Products**
  - M6100 Broadcast Satellite Modulator
  - MDM6100 Broadcast Satellite Modem
  - FRC07x0 Frequency Converters
  - USS0212 1+1 Redundancy Switch
  - USS0202 Universal Switching System
- **Technologies**
  - Clean Channel Technology® provides up to 15% bandwidth efficiency gains on top of the DVB-S2 standard
  - Equalink® 3 pre-distortion provides up to 10% bandwidth gains, higher QoS and geographic coverage
  - DVB-S2X

**M6100 BROADCAST SATELLITE MODULATOR**

**Description**

The Newtec M6100 Broadcast Satellite Modulator is a new generation DVB compliant modulator specifically designed for broadcast applications. This MPEG Transport Stream modulator supports the updated DVB-S2 and DVB-S2X, next to the legacy DVB-S and DVB-DSNG standards in order to achieve barrier-breaking efficiency.

**Advantages**

- Support of the latest and most efficient DVB-S2X standard
- Highest system reliability and service uptime through robust design and industry leading redundancy solutions including TS payload stuffing detection
- Low total cost of ownership as a result of very high bandwidth efficiency technology options, and ease of monitoring and control
- Built-in support for opportunistic data insertion, interoperable with IRDs that support Multi Protocol Encapsulation (MPE)
- Easy integration with industry leading management systems (EMS/NMS/OSS)
- Safe investment as the platform supports advanced capabilities such as proMPEG FEC at the input, built-in transport stream analyser, ECM/EMM messages monitoring and DVB & NIT Carrier ID
- Optional C-band or Ku-band outputs for compact earth station design
- BISS scrambling for contribution links
- Pay-as-you-grow flexible licensing scheme
- Future-proof design combining video and IP unicast and multicast multiservice capabilities, supports transport of today’s and tomorrow’s services
- Dedicated GUI for single stream and multistream applications
- Feature-based pricing and software upgrades
- Provides better link margin with Equalink 3 pre-distortion

**Applications**

- Direct-to-Home
- DSGN
- Broadcast Contribution
- Broadcast Distribution
- Exchange Networks

**RELATED**

- **Products**
  - M6100 Broadcast Satellite Modulator
  - MDM6100 Broadcast Satellite Modem
  - FRC07x0 Frequency Converters
  - USS0212 1+1 Redundancy Switch
  - USS0202 Universal Switching System
- **Technologies**
  - Clean Channel Technology® provides up to 15% bandwidth efficiency gains on top of the DVB-S2 standard
  - Equalink® 3 pre-distortion provides up to 10% bandwidth gains, higher QoS and geographic coverage
  - DVB-S2X
  - Channel Bonding

**Applications**

- Broadcast Distribution to Towers and Headends
- Broadcast Contribution
- Exchange Network
- DTH Network
- Closed Video Distribution Network

**RELATED**

- **Products**
  - M6100 Broadcast Satellite Modulator
  - MDM6100 Broadcast Satellite Modem
  - FRC07x0 Frequency Converters
  - USS0212 1+1 Redundancy Switch
  - USS0202 Universal Switching System
- **Technologies**
  - Clean Channel Technology® provides up to 15% bandwidth efficiency gains on top of the DVB-S2 standard
  - Equalink® 3 pre-distortion provides up to 10% bandwidth gains, higher QoS and geographic coverage
  - DVB-S2X
  - Channel Bonding
**MDM9000 SATELLITE MODEM**

**Description**

The WGS certified (pending) MDM9000 Satellite Modem is the versatile next generation modem optimized for a wide range of fixed and mobile government and defense applications over satellite. The MDM9000 modem is typically installed at both ends of a point-to-point satellite link or at the remote sites of a star network. The unit can act as a modulator, demodulator or modem depending on the network configuration and integrates seamlessly with terrestrial networks and equipment. The modem is in full compliance with the DVB-S2 and the recently released DVB-S2X standards while being backward compatible with Newtec S2 Extensions mode, all in order to achieve barrier-breaking efficiency at maximum service availability. In receiver mode, the MDM9000 serves as demodulator with dedicated intelligence gathering features.

**Advantages**

- Efficiency at the core
- Optimal availability
- Flexibility and scalability for successful operations
- Dedicated intelligence gathering features
- WGS certified (pending)

**RELATED**

- Products
  - HUB6000 Satellite Hub
  - MDM6100 Broadcast Satellite Modem
  - BWC0900 Bandwidth Canceller
  - USS02x2 Redundancy Switch
  - FRC07x0 Frequency Converters

- Technologies
  - DVB-S2 and DVB-S2X
  - FlexACM®
  - Bandwidth Cancellation
  - Clean Channel Technology®

**Applications**

- INTELLIGENCE GATHERING
- GOVERNMENT & DEFENSE

**NEWTEC DIALOG HUB6501 1IF HUB**

**Description**

The Newtec Dialog HUB6501 1IF Hub is designed to specifically address small and dedicated networks. It provides flexibility to easily add high capacity multicarrier demodulators which support SCPC, MF-TDMA and Newtec’s patented Mx-DMA return link technologies.

**Advantages**

- Multiservice hub platform
- Small networks
- Support for SCPC, MF-TDMA and Mx-DMA return links
- Hubs hosted at customer premises
- One satellite network, up to 250 terminals
- Up to 150 Mbps of satellite capacity
- Includes all traffic processing functionality
- Optional redundancy
- Low initial cost
- The hub module easily integrates with the ‘IP backbone’ router and the RF gateway up/downlink
- Optional redundancy can provide better than 99.99% availability
- Including all traffic processing, like Quality of Service (QoS) and congestion management, acceleration, compression and encryption

**RELATED**

- Products
  - MDM2210 IP Satellite Modem
  - MDM2500 IP Satellite Modem
  - MDM3100 IP Satellite Modem
  - MDM3300 Satellite Modem
  - MDM3310 Satellite Modem
  - MDM5000 Satellite Modem
  - M6100 Broadcast Modulator

- Technologies
  - DVB-S2X
  - Mx-DMA®
  - HRC™
  - FlexACM® (including ThiMM and NoDE)
  - Equalink® 3
  - Clean Channel Technology®
  - Cross-Layer-Optimization
  - Acceleration & Compression

**Applications**

- MULTISERVICE NETWORKS
- GOVERNMENT & DEFENSE
- CELLULAR BACKHAUL & TRUNKING
- CONSUMER & ENTERPRISE VSAT
- MOBILITY, OFFSHORE & MARITIME
NEWTEC DIALOG HUB6504
4IF HUB

Description
The Newtec Dialog HUB6504 4IF Hub enables any network configuration, from single to multiple service areas, one or more satellites, different frequency bands, multiple transponders and High Throughput Satellites (HTS). The modularity gives service providers agility to respond to their customer and market needs in a fast and cost-effective way.

Advantages
- Multiservice hub platform
- Up to four satellite networks and 60,000 terminals
- Support for SCPC, MF-TDMA and Mx-DMA return links
- Carrier grade reliability with built-in redundancy
- Low initial cost, pay-as-you-grow
- The hub module easily integrates with the ‘IP backbone’ router and the RF gateway up/downlink
- Optional redundancy can provide better than 99.99% availability
- Including all traffic processing, like QoS and congestion management, acceleration, compression and encryption

Applications
- MULTISERVICE NETWORKS
- GOVERNMENT & DEFENSE
- CELLULAR BACKHAUL & TRUNKING
- CONSUMER & ENTERPRISE VSAT
- MOBILITY, OFFSHORE & MARITIME

RELATED
- Products
  - MDM2210 IP Satellite Modem
  - MDM2500 IP Satellite Modem
  - MDM3100 IP Satellite Modem
  - MDM3300 Satellite Modem
  - MDM3310 Satellite Modem
  - M6100 Broadcast Modulator
- Technologies
  - DVB-S2X
  - Mx-DMA®
  - HRC™
  - FlexACM® (including ThiMM and NoDE)
  - Equalink® 3
  - Clean Channel Technology®
  - Cross-Layer-Optimization
  - Acceleration & Compression

NEWTEC DIALOG HUB7208/7303
XIF HUB

Description
The Newtec XIF Hub is the solution for gateway deployments serving a multitude of beams, transponders or satellites. The use of a baseband matrix brings N:M redundancy for up 32 multicarrier modulators and/or demodulators in one rack. The Newtec XIF Hub is designed for operators seeking high throughput through its 10 Gbps Ethernet switching infrastructure. With support for forward DVB-S2X carriers up to 500 Mbaud, they can leverage the high bandwidth transponders provided by HTS satellites.

Advantages
- Highly flexible and scalable hub architecture
- Optimized baseband density & flexibility with baseband matrix
- Up to 500 Mbaud forward carriers
- Carrier grade reliability with built-in redundancy
- Support for SCPC, MF-TDMA and Mx-DMA return links
- Pay-as-you-grow

Applications
- MULTISERVICE NETWORKS
- GOVERNMENT & DEFENSE
- CELLULAR BACKHAUL & TRUNKING
- CONSUMER & ENTERPRISE VSAT
- MOBILITY, OFFSHORE & MARITIME

RELATED
- Products
  - MDM2210 IP Satellite Modem
  - MDM2500 IP Satellite Modem
  - MDM3100 IP Satellite Modem
  - MDM3300 Satellite Modem
  - MDM3310 Satellite Modem
  - M6100 Broadcast Modulator
- Technologies
  - DVB-S2X
  - Mx-DMA®
  - HRC™
  - FlexACM® (including ThiMM and NoDE)
  - Equalink® 3
  - Cross-Layer-Optimization
  - Acceleration & Compression
HUB6000 SATELLITE HUB

Description

The high performance HUB6000 is the next generation satellite hub designed for data applications over satellite in full compliance with the updated DVB-S2 and DVB-S2X standards as well as Newtec S2 Extensions. The HUB6000 merges cutting edge modulation with the unique combination of traffic shaping and satellite segment bandwidth management. The multicarrier demodulator unit inside the hub integrates three demodulators in one unit which reduces the total cost of ownership.

Advantages

- Very high throughput and packets per second
- Efficiency at the core
- Optimal availability
- Flexible business models
- Easy integration with terrestrial data networks
- Pay-as-you-grow licensing scheme
- Versatile IP and satellite bandwidth management
- Support for DVB-S2 and DVB-S2X
- Advanced traffic shaping engine with CIR, PIR and class based QoS
- Layer 2 or Layer 3 operation

Applications

- 3G/4G/LTE ISP
- FIBER RESTORATION
- TELECOM SERVICES
- ISP
- WIMAX

RELATED
- Products
  - MDM6000 Satellite Modem
  - FRC07X0 Frequency Converters
  - HUB650x Newtec Dialog Hub
  - HUB7208/7303 XIF
  - SATLink Manager
- Technologies
  - FlexACM® (including ThMM and NoDE)
  - DVB-S2X
  - Equalink® 3
  - Carrier ID
  - Clean Channel Technology®
  - Cross-Layer-Optimization

USS0202 UNIVERSAL REDUNDANCY SWITCH

Description

The USS0202 Universal Redundancy Switch is a state-of-the-art product designed to provide a cost effective and scalable 1+1 and N+1 protection scheme for a wide variety of equipment such as modulators, demodulators, moderns and converters. In complex configurations, it can operate and control up to 36 switching modules, embedded in the main unit and into up to seven USS0203 extension units.

Advantages

- High reliability through the dual redundant power supply - Main & Extension unit
- Increases service availability significantly thanks to the automatic or manual operational mode, the automatic switch back and the automatic memorization of the configuration
- Optimized switching time
- Cost-effective solution through GbE logical switching
- Future-proof solution thanks to its scalability from a 1+1 to a 16+1 configuration
- Easy setup and installation through the ability to copy the full configuration from one device to another
- Flexible deployment and device hot replacement
- Easy to use, control and operate through its user-configurable switching logic and the automatic switch back
- Easy integration into NMS systems through SNMP
- Highly compact

RELATED
- Products
  - M6100 Broadcast Satellite Modulator
  - MDM6100 Broadcast Satellite Modem
  - MDM6000 Satellite Modem
  - MCX7000 Multi-Carrier Satellite Gateway
  - USS0212 1+1 Redundancy Switch

Applications

- REDUNDANCY SETUPS IN UPLINKS
- REDUNDANCY SETUPS IN RECEIVE STATIONS
**USS0212**

**1+1 REDUNDANCY SWITCH**

**Description**

The USS0212 1+1 Redundancy Switch is a state-of-the-art product designed to provide a cost-effective and scalable 1+1 protection scheme for modulators, demodulators and modems.

**Advantages**

- High reliability through the dual redundant power supply
- Increases service availability significantly thanks to the automatic or manual operational mode, the automatic switch back and the automatic memorisation of the configuration
- Cost-effective solution through GbE logical switching
- Easy setup and installation through the ability to copy the full configuration from one device to another
- Easy to use, control and operate through its user-configurable switching logic and the automatic switch back
- Easy integration into NMS systems through Monitoring & Control via SNMP
- Highly compact

**Applications**

- REDUNDANCY SETUPS IN UPLINKS
- REDUNDANCY SETUPS IN RECEIVE STATIONS

**RELATED**

- M6100 Broadcast Satellite Modulator
- MDM6100 Broadcast Satellite Modem
- MDM6000 Satellite Modem
- MCX7000 Multi-Carrier Satellite Gateway

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**FRC0710**

**UPCONVERTER**

**Description**

High performance agile IF to L-band upconverter with optional RF upconversion designed for a wide range of broadcast, telco and IP satellite applications. It offers some advanced and unique features such as a wide linear gain range over the entire bandwidth combined with a very high frequency stability.

**Advantages**

- Perfect solution for a wide range of transmissions ranging from very small carriers to full transponder applications
- Easy to operate and monitor
- Ultra fine L-band frequency resolution
- Very high frequency stability
- Very low spurious characteristics
- High linearity over the entire bandwidth
- Switchable spectrum inversion

**Applications**

- DIRECT-TO-HOME
- BROADCAST PRIMARY DISTRIBUTION
- TELCO & VSAT HUBS TRUNKING SATELLITE INFRASTRUCTURE
- VSAT HUBS

**RELATED**

- FRC0720 Downconverter
- FRC0740 L-band Block Upconverter
- FRC0750 Active L-band Combiner and Upconverter
- USS0202 Universal Redundancy Switch

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**USS0212**

**1+1 REDUNDANCY SWITCH**

**Description**

The USS0212 1+1 Redundancy Switch is a state-of-the-art product designed to provide a cost-effective and scalable 1+1 protection scheme for modulators, demodulators and modems.

**Advantages**

- High reliability through the dual redundant power supply
- Increases service availability significantly thanks to the automatic or manual operational mode, the automatic switch back and the automatic memorisation of the configuration
- Cost-effective solution through GbE logical switching
- Easy setup and installation through the ability to copy the full configuration from one device to another
- Easy to use, control and operate through its user-configurable switching logic and the automatic switch back
- Easy integration into NMS systems through Monitoring & Control via SNMP
- Highly compact

**Applications**

- REDUNDANCY SETUPS IN UPLINKS
- REDUNDANCY SETUPS IN RECEIVE STATIONS

**RELATED**

- M6100 Broadcast Satellite Modulator
- MDM6100 Broadcast Satellite Modem
- MDM6000 Satellite Modem
- MCX7000 Multi-Carrier Satellite Gateway

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**FRC0710**

**UPCONVERTER**

**Description**

High performance agile IF to L-band upconverter with optional RF upconversion designed for a wide range of broadcast, telco and IP satellite applications. It offers some advanced and unique features such as a wide linear gain range over the entire bandwidth combined with a very high frequency stability.

**Advantages**

- Perfect solution for a wide range of transmissions ranging from very small carriers to full transponder applications
- Easy to operate and monitor
- Ultra fine L-band frequency resolution
- Very high frequency stability
- Very low spurious characteristics
- High linearity over the entire bandwidth
- Switchable spectrum inversion

**Applications**

- DIRECT-TO-HOME
- BROADCAST PRIMARY DISTRIBUTION
- TELCO & VSAT HUBS TRUNKING SATELLITE INFRASTRUCTURE
- VSAT HUBS

**RELATED**

- FRC0720 Downconverter
- FRC0740 L-band Block Upconverter
- FRC0750 Active L-band Combiner and Upconverter
- USS0202 Universal Redundancy Switch

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**USS0212**

**1+1 REDUNDANCY SWITCH**

**Description**

The USS0212 1+1 Redundancy Switch is a state-of-the-art product designed to provide a cost-effective and scalable 1+1 protection scheme for modulators, demodulators and modems.

**Advantages**

- High reliability through the dual redundant power supply
- Increases service availability significantly thanks to the automatic or manual operational mode, the automatic switch back and the automatic memorisation of the configuration
- Cost-effective solution through GbE logical switching
- Easy setup and installation through the ability to copy the full configuration from one device to another
- Easy to use, control and operate through its user-configurable switching logic and the automatic switch back
- Easy integration into NMS systems through Monitoring & Control via SNMP
- Highly compact

**Applications**

- REDUNDANCY SETUPS IN UPLINKS
- REDUNDANCY SETUPS IN RECEIVE STATIONS

**RELATED**

- M6100 Broadcast Satellite Modulator
- MDM6100 Broadcast Satellite Modem
- MDM6000 Satellite Modem
- MCX7000 Multi-Carrier Satellite Gateway

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**FRC0710**

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- Very low spurious characteristics
- High linearity over the entire bandwidth
- Switchable spectrum inversion

**Applications**

- DIRECT-TO-HOME
- BROADCAST PRIMARY DISTRIBUTION
- TELCO & VSAT HUBS TRUNKING SATELLITE INFRASTRUCTURE
- VSAT HUBS

**RELATED**

- FRC0720 Downconverter
- FRC0740 L-band Block Upconverter
- FRC0750 Active L-band Combiner and Upconverter
- USS0202 Universal Redundancy Switch
## FRC0720 DOWNCONVERTER

### Description
High performance agile L-band to IF downconverter designed for a wide range of broadcast, telco and IP satellite applications. It offers some advanced and unique features such as a calibrated wide linear gain range over the entire bandwidth combined with a very high frequency stability.

### Advantages
- Highest signal quality
- High flexibility
- High gain
- Ultra fine L-band frequency resolution
- Very high frequency stability
- High linearity over the entire bandwidth
- Low noise figure
- Switchable spectrum inversion

### Applications
- DIRECT-TO-HOME
- BROADCAST PRIMARY DISTRIBUTION
- TELCO & VSAT HUBS
- TRUNKING SATELLITE INFRASTRUCTURE
- VSAT HUBS

## FRC0730 UP- AND DOWNCORVERTER

### Description
High performance agile up- and downconverter designed for a wide range of broadcast, telco and IP satellite applications. It offers some advanced and unique features such as a calibrated wide linear gain range over the entire bandwidth combined with a very high frequency stability.

### Advantages
- Perfect solution for a wide range of transmissions ranging from very small carriers to full transponder applications
- Easy to operate and monitor
- Highest signal quality
- Extensive coverage of transponder frequencies through optional RF upconverters
- High flexibility
- Ultra fine frequency resolution
- Very high frequency stability
- Very low spurious characteristics
- High linearity over the entire bandwidth

### Applications
- DIRECT-TO-HOME
- BROADCAST PRIMARY DISTRIBUTION
- TELCO & VSAT HUBS
- TRUNKING SATELLITE INFRASTRUCTURE
- VSAT HUBS

## RELATED
- Products
  - FRC0710 Upconverter
  - FRC0740 L-band Block Upconverter
  - FRC0750 Active L-band Combiner and Upconverter
  - USS0202 Universal Redundancy Switch
**FRC0740**

**L-BAND BLOCK UPCONVERTER**

**Description**
High performance frequency block upconverter designed for a wide range of broadcast, telco and IP satellite applications. The FRC0740 translates frequencies from L-band to a wide range of RF frequencies such as C-, Ku- and DBS-band. The FRC0740 guarantees the best signal quality thanks to a very high frequency stability and very low spurious characteristics.

**Advantages**
- Easy to operate and monitor
- Very wide linear gain range
- Very good gain flatness over the entire bandwidth
- Very high frequency stability
- Very low spurious characteristics

**Applications**
- DIRECT-TO-HOME
- BROADCAST PRIMARY DISTRIBUTION
- TELCO & VSAT HUBS
- TRUNKING SATELLITE INFRASTRUCTURE
- VSAT HUBS

**RELATED**
- Products
  - M6100 Broadcast Satellite Modulator
  - MDM6100 Broadcast Satellite Modem
  - M6000 Satellite Modem
  - FRC0710 Upconverter
  - FRC0720 Downconverter
  - FRC0730 Up and Down Converter
  - USS0202 Universal Redundancy Switch

**FRC0750**

**ACTIVE L-BAND COMBINER & UPCONVERTER**

**Description**
The FRC0750 Active L-band Combiner and Block Upconverter is primarily designed to bring together several L-band carriers in a single satellite channel. To equalize the level of the incoming signals, each input has its own amplifier/attenuator. The FRC0750 can also be used as an active switching device for signal routing purposes or redundancy switching operations.

**Advantages**
- Advanced monitoring and control
- Each input is switchable and gain adjustable
- Optional upconversion to C, Ku or DBS-band

**Applications**
- DIRECT-TO-HOME
- BROADCAST PRIMARY DISTRIBUTION
- TELCO & VSAT HUBS
- TRUNKING SATELLITE INFRASTRUCTURE
- VSAT HUBS

**RELATED**
- Products
  - MDM6000 Satellite Modem
  - MDM6100 Broadcast Satellite Modem
  - M6100 Broadcast Satellite Modulator
  - FRC0710 Upconverter
  - FRC0720 Downconverter
  - FRC0730 Up and Down Converter
  - USS0202 Universal Redundancy Switch
OUTDOOR UNIT PORTFOLIO

Description

The Newtec modems can be combined with a performant ODU portfolio. The BUCs and LNBs have been selected to provide optimal performance.

Advantages

- High efficiency output power
- Low cost and low power consumption
- Ease of installation

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Applications

2G/3G/RURAL CELLULAR BACKHAULING
PRIVATE NETWORKS
INTERNET / INTRANET ACCESS
VOIP TELEPHONY
GOVERNMENT & NGO

NEWTEC DIALOG® MULTISERVICE PLATFORM

Description

Newtec Dialog is a single-service and multiservice VSAT platform that allows operators and service providers to build and adapt their infrastructure and satellite networking according to business or missions at hand. Based on the cornerstones of flexibility, scalability and efficiency, the Newtec Dialog platform gives the operator the power to offer a variety of services on a single platform.

Advantages

- Supporting wide range of applications and services on a single platform
- Up to 15% efficiency improvement with Newtec’s Clean Channel Technology
- 50% bandwidth savings with Newtec Mx-DMA return link technology
- OSS/BSS integration using extensive open API
- Easy to use and fast network roll-out
- Modem portfolio, supporting different return links
- Pay-as-you-grow modularity
- Maximum availability and link robustness
- Future proof
- Extensible with Newtec’s and 3rd party VAS applications
- Support for DVB-S2 and DVB-S2X

RELATED

- Products
  - MDM2210 Satellite Modem
  - MDM2500 IP Satellite Modem
  - MDM3100 IP Satellite Modem
  - MDM3200 Satellite Modem
  - MDM3310 Satellite Modem
  - MDM5000 Satellite Modem
  - Newtec Dialog HUB6501 1IF Hub
  - Newtec Dialog HUB6504 4IF Hub
  - Newtec Dialog HUB7208/7303 XIF Hub
  - File Exchange Manager
  - SATlink Manager

- Technologies
  - DVB-S2X
  - Clean Channel Technology®
  - HRC™
  - Mx-DMA®
  - FlexACM®
  - Cross-Layer-Optimization
  - Equalink®
  - Point&Play®
  - Acceleration & Compression

Applications

FNG/SNG
CONTRIBUTION
DISTRIBUTION
DIRECT-TO-HOME
CONSUMER/SOHO
SCADA
ENTERPRISE/SME
ENERGY
CELLULAR BACKHAUL
BACKHAUL
TRUNKING
FIBER RESTORATION
GOVERNMENT NETWORKS
ISR & BORDER SECURITY
DISASTER RECOVERY/NGO
MRV NETWORKS
OFFSHORE, OIL & GAS
MINING
MARITIME
AVIATION
NEWTEC DIALOG® MOBILITY MANAGER

Description
The Newtec Dialog® Mobility Manager is a turnkey solution for managing mobility networks. The Mobility Manager switching policies are configured through a powerful rules-based engine. In addition to standard location-based logic, the Mobility Manager rules can also incorporate other factors such as network load, beam cost and real-time terminal performance. The multilayer map-based GUI enables intuitive global network management.

Advantages
• Mobile network operators can customize beam switching logic to match their business needs and priorities.
• Powerful scripting capabilities allow external factors such as weather, vessel itineraries and customer preferences to be considered.
• Streamlined service activation and configuration of both mobile and fixed satellite services.

Applications
MARITIME AVIATION COMMUNICATIONS ON-THE-MOVE

RELATED
• Products
  - MDM2510
  - MDM3310
  - MDM5000
• Platforms
  - Newtec Dialog®

SATLINK MANAGER

Description
Newtec’s SATLink Manager software module allows broadcasters and telco operators to efficiently manage the transmission resources and capacity, and guaranteeing error-free link setups by automation of satellite ground equipment.

Advantages
• Multiple data + broadcast services support on single platform
• Versatile modem portfolio support
• Possibility to integrate with integrated NMS, to allow support of flexible transmission workflows and hybrid connectivity
• Scales from small to large networks
• Support for capacity pools over multiple transponders, frequency bands and satellites
• Scales with the number of supported services and throughputs
• Low upfront CAPEX requirements, invest as your business grows
• Support for highly efficient modulation schemes, such as DVB-S2 and DVB-S2X
• Optimization of bandwidth allocation through optimal MODCOD selection and pooled capacity support
• FlexACM support

Applications
FNG/SNG CONTRIBUTION FIBER RESTORATION BACKHAUL BUSINESS CONTINUITY

RELATED
• Products
  - MDM6000 Satellite Modem
  - MDM6100 Satellite Modem
  - MCK7000 Multi-Carrier Satellite Gateway
  - HUB6000 Satellite Hub
  - File Exchange Manager
• Platforms
  - Newtec Dialog®
FILE EXCHANGE MANAGER

Description
The File Exchange Manager application is a versatile solution for the non-linear contribution, distribution and exchange of file-based digital assets. It provides bandwidth-efficient, reliable and secure data transmission over satellite as well as hybrid IP networks.

Advantages
- Highly reliable and guaranteed file reception
- Encrypted transmission to ensure content privacy
- Supporting wide range of applications and services on a single platform
- Interoperability with any transport system: Newtec Dialog, HUB6000, 3rd party SCPC/VSAT system or terrestrial/hybrid IP network
- Versatile platform support
- Possibility to integrate with integrated NMS, to allow support of flexible transmission workflows and hybrid connectivity
- Scales from small to large networks
- Scales with the number of supported services and throughputs
- Satellite-bandwidth efficient file exchange
- Full utilization of available satellite capacity
- Fully automated file workflows
- Easy self-deployment and operation

Applications
- SNG/FNG
- FIXED BROADCAST CONTRIBUTION & EXCHANGE
- DIGITAL SIGNAGE
- MWR

TERMINAL INSTALLATION APP

Description
The Terminal Installation App is an installation tool that satisfies the increasing demand for efficient, accurate terminal installations with low adjacent satellite interference. It is an element of the Newtec Point&Play technology.

The Terminal Installation App is a smartphone app that connects to the modem through Wi-Fi. It supports a number of key functionalities required during an antenna installation: Site acceptance, polarization adjustment, fully aided antenna pointing, storm testing and more. A terminal installation kit is available containing all required tools to enjoy the full functionality of the app.

Advantages
- Accurate terminal installations with low adjacent satellite interference
- Highest service satisfaction through optimal signal quality
- High installation success rate
- Lower installation costs
- Android & iOS support

Applications
- INTERNET / INTRANET
- SCADA
- POINT OF SALE
- SCHOOL NETWORKS
- VOIP TELEPHONY
**OM6000 SATELLITE MODULATOR BOARD**

**Description**

The OM6000 Satellite Modulator Board provides the OEM integrator a smooth upgrade path to the DVB-S2X standard starting as a drop-in replacement for current functionality (Form, Fit and Function (FFF) backward compatible with NTC/7029, NTC/7039 and NTC/7139) and moving towards Newtec state of the art technology features.

**Advantages**

- Best-in-class spectral purity
- On-board reference
- IF or L-band output selectable by software command
- RF Carrier ID compliant
- Support for all Newtec S2 Extensions modulation schemes and DVB-S, DVB-DSNG, DVB-S2 and DVB-S2X standards
- Up to 72 Mbaud

**Applications**

- Broadcast
- DSNG
- Digital TV

**RELATED**
Compliant with the most recent commercially available IRDs.

**OD6000 SATELLITE DEMODULATOR BOARD**

**Description**

The OD6000 Satellite Demodulator Board provides the OEM integrator a smooth upgrade path to the DVB-S2X standard starting as a drop-in replacement for current functionality (Form, Fit and Function (FFF) backward compatible with NTC/7044) and moving towards Newtec state of the art technology features.

**Advantages**

- High-end DVB-S2X demodulator with best ES/N0 threshold performance
- DVB-S2X, DVB-S2 and DVB-DSNG/S standard compliant
- 4 x L-band input selectable by software command
- LNB power and control
- Transport Stream or DVB-S2(X) BaseBand frame output options
- Support of Multistream and VCM operation
- Up to 60 Mbaud and 190 Mbit/s

**Applications**

- Broadcast
- Contribution & Exchange
- Primary Distribution
- Data Broadcast
- Data Monitoring
NEWTEC MX-DMA®
SEAMLESS DYNAMIC BANDWIDTH
ALLOCATION AT SCPC EFFICIENCY

Description
A patented efficient and dynamic multiple-access scheme which enables operators to share satellite capacity over a group of satellite terminals transmitting to a central location.

What Does It Do?
The Mx-DMA return technology adjusts the frequency plan transmission parameters for every terminal in the satellite network. Mx-DMA provides the efficiency and performance of SCPC with the dynamic bandwidth allocation capabilities of MF-TDMA. Mx-DMA assigns dedicated SCPC return carriers to each terminal, but dynamically adjusts the symbol rate, MODCOD, power level and center frequency, every second, based on demand and weather conditions.

Applications
Both fixed rate and variable rate applications, ranging from as low as 32 kbps to 75 Mbps. The VLSNR MODCODs provide support for small antennas and mobile terminals.

Advantages
• Eliminates the difficult choice of having to select either MF-TDMA or SCPC
• Maximum return efficiencies
• Dynamic bandwidth allocation on the fly
• Low jitter and delay
• Seamless operation with no packet loss
• Operators no longer need to dimension the return carrier plan
• Rain margin can be managed per network, instead of per carrier. Mx-DMA dynamically allocates capacity to carriers that need it

Gain
Compared to SCPC DVB-S2 with 20% roll-off, it provides 50% bandwidth savings or doubles the number of customers per MHz. Compared to MF-TDMA 4CPM, it also provides 50% bandwidth savings.

NEWTEC HIGHRESCODING - HRC™
HIGHLY EFFICIENT RETURN WAVEFORM

Description
HRC is the high-efficiency/low-latency modulation and coding scheme that has been designed for Mx-DMA. It increases throughput or saves bandwidth in a satellite link.

What Does It Do?
HRC maximizes the amount of bits that can be transmitted through a given satellite capacity. Its wide range of MODCODs provides the means to do this under varying satellite link conditions. The carrier sizing gives fine granularity and high range of traffic rates while the short block code minimizes the delay and jitter on the traffic.

Applications
Low-to-medium rate Satcom applications which are sensitive to latency, jitter and variable bandwidth conditions. The VLSNR MODCODs provide support for small antennas and mobile terminals.

Advantages
• A level of efficiency comparable to DVB-S2
• Optimized for low and medium rate traffic
• Synchronous framing across terminals, for seamless carrier plan updates
• Small block size for minimum latency
• Low jitter and delay
• High MODCOD granularity

Gain
HRC provides a level of efficiency comparable to DVB-S2 short frame with a 5% roll-off factor while the block size is five times smaller than DVB-S2 short frames.
NEWTEC ACCELERATION & COMPRESSION TECHNOLOGIES

IMPROVES THE USER EXPERIENCE OF INTERNET OR ENTERPRISE APPLICATIONS

Description
A combined set of traffic enhancement technologies which speed up underlying communication protocols.

What Does it Do?
Acceleration improves the user experience of Internet or enterprise applications while increasing satellite bandwidth efficiency at the same time by compressing the data sent over satellite.

Applications
Trunking, Internet access and broadband VSAT applications.

Advantages
- Improves the user experience of Internet and enterprise applications
- Full and instant usage of the available satellite capacity
- Increase of download speed up to the maximum possible throughput
- Bandwidth savings of up to 20% on the forward and up to 90% on the return link

Gain
Bandwidth savings of up to 20% on the forward and up to 90% on the return link.

NEWTEC CLEAN CHANNEL TECHNOLOGY®
IMPROVING DVB-S2 EFFICIENCY WITH SMALL ROLL-OFFS AND ADVANCED FILTERING TECHNOLOGY

Description
A combination of improved roll-offs (5%, 10%, 15%) for DVB-S2 and advanced filtering technologies to allow optimal carrier spacing.

What Does it Do?
Improves satellite efficiency by up to 15% when compared to the DVB-S2 standard and ensures the modulator output spectral shape is better than competition (side lobes 60 dB below carrier level).

Applications
All multiple-carrier per transponder scenarios. Also single-carrier per transponder in case the service provider or network operator needs to optimize (read: increase) the carrier size.

Advantages
- Do more with available bandwidth or cut OPEX costs
- Advanced filter technology
- Upgrade available on existing Newtec DVB-S2 equipment
- Available as option on new equipment

Gain
Increases efficiency by up to 15%.
NEWTEC CROSS-LAYER-OPTIMIZATION
AUTOMATED END-TO-END OPTIMIZATION TECHNOLOGY BETWEEN THE RF AND THE IP LAYERS

Description
In Cross-Layer-Optimization two-way interactions between the RF, physical layer and the network/IP components are exploited to tailor available resources to match demand more closely. It is part of a wider traffic shaping process that ensures QoS and prioritization of applications and users, assuring maximum availability and usage of the network.

What Does It Do?
In an environment of variable satellite IP bandwidth, Cross-Layer-Optimization continuously fills the available satellite capacity, while following QoS rules, and avoids packet drops by controlling the rate at which end-user applications send data in real-time.

Applications
Any satellite IP communication is applicable.

Advantages
- Full use of available satellite capacity
- Maximized QoE

Gain
Cross-Layer-Optimization allows operators to fully use the available satellite capacity while still offering flexible SLAs depending on the different customer requirements. The shortened response times and reduced file transfer durations also maximize the end-user QoE.

NEWTEC EQUALINK® 3
PRE-DISTORTION COMPENSATING FILTER & AMPLIFIER EFFECTS

Description
A revolutionary linear and non-linear pre-distortion technology (implemented in the modulator).

What Does It Do?
Mitigates linear and non-linear distortion effects. The latest Equalink version (Equalink 3) can also provide significant gain for Direct-to-Home (DTH) applications.

Applications
All single-carrier per transponder scenarios. In particular, DTH carriers, professional distribution carriers and VSAT outbound carriers.

Advantages
- Dramatically increases link margin of set-top boxes
- Up to 15% more throughput in DVB-S2 8PSK
- Automated calibration process, using Newtec demodulators to measure distortion and optimize equalization

Gain
For DTH applications: Additional data traffic of up to 15% in the same satellite capacity or a link margin improvement of up to 0.6dB. For professional applications: Similar efficiency gains and up to 4dB link margin improvement.
NEWTEC POINT&PLAY®
EASY AND ACCURATE ANTENNA INSTALLATION

**What Does It Do?**
Point&Play enables the installer (be it a professional installer or the end-user) to easily position the antenna correctly by identifying the satellite and providing feedback on both signal quality and lock.

**Applications**
Pointing of Newtec Outdoor Units (ODUs), in combination with Newtec VSAT modems, such as the MDM2000 and MDM3000 series modems.

**Advantages**
- Lowers the operational cost
- Differentiates and improves the competitiveness of the service provider
- Increases market penetration by creating more distribution channels
- Reduces risk of interference

**Gain**
Point&Play enables accurate pointing for non-skilled installers or end-users.

NEWTEC FLEXACM®
END-TO-END SOLUTION OPTIMIZING SATELLITE CHANNELS SUFFERING FROM VARIABLE LINK CONDITIONS

**What Does It Do?**
FlexACM is the innovative and award-winning solution by Newtec for efficient satellite communications. The technology doubles throughput in satellite networks that suffer from variable link conditions both in the forward and return satellite channel. At the same time maximum service availability can be achieved in any fading condition (inclined orbit, weather, dust, interference) to keep mission-critical communications running at all times.

**Applications**
Any IP related application over satellite suffering from variable link conditions due to the nature of the satellite (inclined orbit satellite), frequency band (Ka, Ku) or interference (rain fade, sun, shadowing effects).

**Advantages**
- Doubles throughput
- Optimal availability
- Cuts OPEX costs
- Suitable for inclined orbit satellite operations
- End-to-end efficiency
- Proven Return on Investment (RoI)
- Accommodates a wide range of terminal sizes and business models on the same network
- Proven technology with a large installed base

**Gain**
The gain of FlexACM can range from 30% to 50% depending on the type of traffic and the satellite link conditions.
**CARRIER ID (DVB-CID)**
IDENTIFIES THE SOURCE OF AN INTERFERING CARRIER

**Description**
The DVB standard implementation of Carrier ID (DVB-CID) is a signal embedded into a video or data transmission path to correctly identify a carrier when it is causing interference in the satellite network.

**What Does It Do?**
It allows satellite operators and end-users to identify the source of an interfering carrier.

**Applications**
Any broadcast or data transmission application.

**Advantages**
- Gain of time, effort and money
- Identification of the source of an interfering carrier
- Reduce downtime due to interference

**Gain**
The gain of Carrier ID is an operational gain for satellite and network operators; a lot of time, effort and money are spent trying to identify interfering carriers (of which 90% is unintentional). Being able to rapidly pinpoint the source of the interferer will save a lot of work.

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**NEWTEC MULTISTREAM**
ALLOWS USERS TO AGGREGATE A NUMBER OF INDEPENDENT TRANSPORT STREAMS OR IP STREAMS INTO ONE SATELLITE CARRIER

**Description**
Multistream is a main advantage of the DVB-S2 and DVB-S2X standard.

**What Does It Do?**
It allows users to aggregate a number of independent transport streams or IP streams into one satellite carrier in a fully transparent manner, maintaining the integrity of the original content.

**Applications**
Primary Distribution of Digital Terrestrial TV (DTT) and Mobile TV over satellite.
DSNG contributions where one or more video channels are combined with IP based services.

**Advantages**
- No need for re-multiplexing at the towers
- 1-4 multiplexes distribution with only 1 Receiver (e.g. compared with 4 IRDs!)
- Less satellite bandwidth needed compared with DVB-S
- Distribution of multiple services (terrestrial TV, mobile TV, radio and IP) in a single carrier
- Ability to saturate the transponder and gain up to 12% bandwidth on top of the gain brought by DVB-S2
- Single Frequency Network (SFN) compliant
- Lower number of frequencies necessary
- Fully interoperable, transparent and compliant with the DVB-S2 and DVB-S2X standard

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**Carrier ID**
by NEWTEC

**Gain**
12% bandwidth on top of the gain brought by DVB-S2.

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**Multistream**
by NEWTEC
TECHNOLOGIES

DVB-S2X STANDARD
NEW DVB-STANDARD ON BOARD
NEWTEC PRODUCTS

Description
The DVB-S2X waveform is the DVB and ETSI approved standard which was launched in March 2014 as a successor to the DVB-S2 standard.

What Does It Do?
DVB-S2X offers improved performance and features compared to DVB-S2 for professional applications such as contribution, digital satellite news gathering, DTH, VSAT, trunking, cellular backhaul and mobility. The technologies implemented in DVB-S2X range from lower roll-offs and higher modulation up to 256APSK to adding higher granularity, increasing the standard from 28 to 116 MODCODs.

Applications
The applications that will adapt quickly to the DVB-S2X standard are mainly trunking, broadcast contribution and exchange, backhauling and professional IP access networks, as well as applications within the government and defense market (ISR, MWR, disaster recovery). These are applications that typically require higher throughput or need better margins to remain profitable.

Advantages
• Optimized for HTS
• Smaller roll-offs (5%) 
• Advanced filtering
• Increased granularity in MODCODs
• Higher modulation schemes of up to 256APSK
• Wideband support of up to 133/500 Mbaud

CHANNEL BONDING
FOR EFFICIENT UHD TRANSMISSIONS

Description
The DVB-S2X waveform is the DVB and ETSI approved standard which was launched in March 2014 as a successor to the DVB-S2 standard. The efficiency technologies contributed by Newtec to the new DVB standard boost the satellite link up to 20% in DTH networks and 51% in other professional applications when compared to DVB-S2. When adding wideband to the equation, an extra 20% can be added to the total. These gains already exceed the results by proprietary systems available on the market today.

What Does It Do?
It allows for a large TS to be carried in parallel over 2 or 3 transponders.

Applications
4k and 8k UHD- Direct-to-Home (DTH) bouquets

Advantages
• The efficiency gain of statistical multiplexing on 7 channels is typically 20%.

Gain
The statistical multiplexing gain of 7 UHD channels can only be obtained through Channel Bonding, as the bit rate exceeds what is available in a single Ku-band Transponder Equivalent (TPE) of 36 MHz.

TECHNOLOGIES

CHANNEL BONDING
FOR EFFICIENT UHD TRANSMISSIONS

Description
Channel Bonding for TS transmissions according to the DVB-S2X standard splits a Transport Stream in 2 or 3 parts for parallel transmission over satellite. The receive part then recomposes the original TS.

What Does It Do?
It allows for a large TS to be carried in parallel over 2 or 3 transponders.

Applications
4k and 8k UHD- Direct-to-Home (DTH) bouquets

Advantages
• The efficiency gain of statistical multiplexing on 7 channels is typically 20%.

Gain
The statistical multiplexing gain of 7 UHD channels can only be obtained through Channel Bonding, as the bit rate exceeds what is available in a single Ku-band Transponder Equivalent (TPE) of 36 MHz.
NEWTEC DATACASTING TECHNOLOGY
EFFICIENT DISTRIBUTION TECHNOLOGY FOR CONTENT AND MEDIA

Description
Newtec datacasting technology (Multicast) allows the efficient distribution of content and media towards single (Unicast) or multiple customers at the same time in an efficient way over a satellite or terrestrial network.

What Does It Do?
The Newtec Multicast distribution platform provides a reliable distribution of files, directory structures and data streams for various applications. Multicast allows content to be distributed to a large number of recipients with only one single transmission. The reliability of the data/multicasting service is enhanced by the software’s partial retransmission capabilities.

Applications
The Newtec Multicast technology can be used over a wide range of unidirectional and bidirectional communication networks such as satellite connections, cable TV networks, xDSL and Internet. This includes media exchange services for ISR or dissemination of meteorological data.

Advantages
- High transmission reliability
- High bandwidth efficiency
- Reduced channel cost
- Content protection
- High degree of automation

Gain
Multicasting and exchanging content towards remote sites and ships with Newtec’s Datacasting Software will immediately result in important efficiency and OPEX gains.

BANDWIDTH CANCELLATION (BWC)
UNRIVALLED CAPACITY GAIN THROUGH FULL DIGITAL PROCESSING

Description
At the receive side, the cancellation mechanism will cancel out the modem’s own uplink signal in order to be able to demodulate the desired carrier.

What Does It Do?
Bandwidth Cancellation (BWC) is a technology which allows transmission of two carriers into the same leased satellite bandwidth.

Applications
Bandwidth Cancellation can be used in any point-to-point application, with the main usage in trunks and backhaul circuits. It can also be used to cancel the forward carrier in certain point-to-multipoint applications.

Advantages
- Fast synchronization
- Easy operation and monitoring
- Highest spectral efficiency

Gain
A gain of up to 30% in space capacity can be achieved for symmetrical links. When an existing link is bandwidth limited (not using all available transponder power of the leased bandwidth) gains of up to 100% are possible. This saving enables considerable OPEX savings or deployment expansion by adding services within the same available bandwidth.