

airScreen talityTM

airScreen TalityTM - Professional Hospitality Video Headend

IDLA-4RCUC90-IPSO4-XPW

Item: 5767

Introducing the airScreen TalityTM

Conceived to meet the needs of hotels, schools, hospitals and MDUs, airScreen TalityTM is flexible and feature rich enough to also meet the needs of professional and commercial CATV and IPTV systems.

Powerful & Compact

The convenient 4 RU package can host up to 16 hot-swappable modules to meet all possible product demands, including receiving, de-scrambling, encoding, multiplexing, re-scrambling and modulating a Transport Stream. Additionally, a 1 RU device with up to 6 hot-swappable modules is the roadmap for simpler deployments.

Reliable & Environmentally Friendly

airScreen TalityTM compact and dense form factor results in a low power consumption system. With its service level monitoring and dual power supply, a 24/7 non-stop operation is guaranteed. Consequently, airScreen TalityTM is an environmental, reliable and space saving designed system to keep also your OPEX low for years to come.

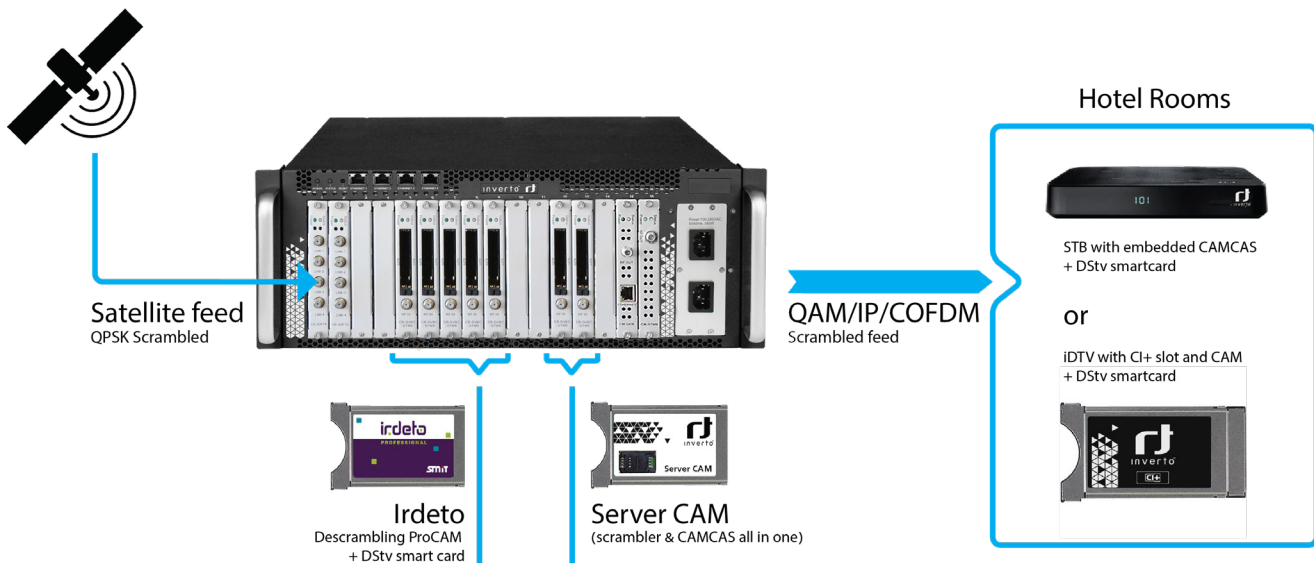
Product Features:

- 4 RU with up to 16 functional modules
- Service level multiplexing
- PSI/SI analysis and regeneration
- Web-based configuration
- Flexible and scalable
- Low noise design
- Up to 64 receive frequencies (DVB-C/T/T2/S/S2, 8VSB, DTMB, ISDBT)
- Up to 64 channels HD encoding (via HDMI inputs)
- Up to 96 channels SD encoding (via CVBS inputs)
- Up to 256 QAM modulated frequency outputs

Reliability Features:

- Hot-swappable modules
- Service level monitoring
- Dual redundant power supplies
- Low power consumption and high reliability with MTBF $\geq 100,000$ hours

airScreen Tality™ solution: study case as applied to DStv Business* market needs



airScreen Tality™ is the perfect choice for MATV/CATV/IPTV systems that require cost-effective distribution and centralized processing.

The above example illustrates the application of airScreen Tality™ to Multichoice's* hospitality projects and displays the following:

airScreen Tality™ receives signals from a DVB-S/S2 source, descrambles the encrypted programs utilizing embedded CI slots from the input modules. The programs are then multiplexed into new streams and modulated to QAM frequencies. In this specific DSTV Business case, they are also re-encrypted in real-time basis using Studios and MultiChoice* approved CAMCAS solution (an Inverto exclusive). The output frequencies are then simply delivered via the traditional coaxial cable network or alternatively via an IP network (DVB over IP) to the hotel rooms:

Coax networks: with re-encryption, the content is displayed using either a HD zapper box or a Conditional Access Module (CI+ CAM) inserted in the TV set to de-scramble the transport stream.

IP networks: with re-encryption; the IP output will be sent to an IP zapper-box with HDMI out to the TV.

When in the clear, the IP output supports streaming content via UDP/RTP to Internet/Intranet. This allows operators the ability to deliver content to users' PC/TV or mobile devices. All of this in 4 RU package, saving space and operating costs. What's more, airScreen Tality™ seamlessly integrates with existing or third-party devices/systems (VOD, ad insertion or billing systems) to offer a complete solution in a turnkey package (TBD on a case-by-case basis).

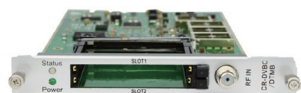
Chassis

- 16 hot-swappable slots
- Dual redundant power supplies
- Service level multiplexing
- 4 x Gigabit RJ45 (embedded):
 - MPEG TS over UDP/RTP multicast/unicast
 - SPTS/MPTS
- Max. 120 inputs and 120 outputs

Physical & Environment

Input Voltage	100 VAC ~ 240 VAC
Power	350 W
Chassis dimension (W x H x D)	480 mm x 177 mm x 345 mm, 4 RU
Operating temperature	0°C ~ 50°C
Storage temperature	-10°C ~ 70°C
Operating Humidity	<95%
MTBF	100,000 hours

Receiver Modules



Module	DVB-C Receiver	DVB-C/ISDB-T Receiver		DVB-T/T2 Receiver
	DVB-C Mode	DVB-C Mode	ISDB-T Mode	
Input	4 channels via 1 RF female connector	4 channels via 1 RF female connector	4 channels via 1 RF female connector	4 channels via 1 RF female connector
LNB Power				
LNB Voltage				
LNB Current				
CI	2 x PCMCIA CI slots	2 x PCMCIA CI slots	2 x PCMCIA CI slots	2 x PCMCIA CI slots
CAM	Descrambled channel quantity depends on CAM capability, 2 CAMs could be different Supports mainstream CAS	Descrambled channel quantity depends on CAM capability, 2 CAMs could be different Supports mainstream CAS	Descrambled channel quantity depends on CAM capability, 2 CAMs could be different Supports mainstream CAS	Descrambled channel quantity depends on CAM capability, 2 CAMs could be different Supports mainstream CAS
QAM Mode	Annex A/C	Annex B		
Frequency Range	47 MHz ~ 862 MHz	47 MHz ~ 862 MHz	177.143 MHz ~ 863.143 MHz	47 MHz ~ 862 MHz
Bandwidth	6/7/8 MHz	6/7/8 MHz	6/7/8 MHz	6/7/8 MHz
Modulation				
Constellation	16QAM / 32QAM / 64QAM / 128QAM / 256QAM	64QAM / 256QAM	DQPSK, QPSK, 16QAM, 64QAM	DVB-T: QPSK / 16QAM / 64QAM DVB-T2: QPSK / 16QAM / 64QAM / 256QAM
Guard Interval				DVB-T: 1/4, 1/8, 1/16, 1/32 DVB-T2: 1/4, 1/8, 1/16, 1/32, 1/128, 19/256, 19/128
FEC			1/2, 2/3, 3/4, 5/6, 7/8, Automatic	
FFT Size				DVB-T: 2k, 8k DVB-T2: 1k, 2k, 4k, 8k, 16k, 32k
Symbol Rate	3.6 Ms/s ~ 6.952 Ms/s	3.6 Ms/s ~ 6.952 Ms/s		
Signal Level	40 dB μ V ~ 80 dB μ V	40 dB μ V ~ 80 dB μ V	-80 dBm ~ -20 dBm	-80 dBm ~ -20 dBm
Roll-off Factor				

Receiver Modules



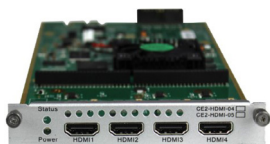
Module	DVB-S/S2 FTA Receiver	DVB-S/S2 with CI Receiver	8VSB Receiver Module (ATSC)
Input	C/Ku Band, 4 channels via 4 RF female connectors	C/Ku Band, 4 channels via 2 RF female connectors, CH1 & CH2 via LNB-1, CH3 & CH4 via LNB-2	4 channels via 4 RF female connector
LNB Power	Independent power supplies for LNB-1 & LNB-3	Independent power supplies for each LNB	
LNB Voltage	13 V/18 V	13 V/18 V	
LNB Current	Max. 400 mA	Max. 400 mA	
CI		2 x PCMCIA CI slots	
CAM		Descrambled channel quantity depends on CAM capability, 2 CAMs could be different Supports mainstream CAS	
QAM Mode			
Frequency Range	950 MHz ~ 2150 MHz	950 MHz ~ 2150 MHz	50 MHz ~ 860 MHz
Bandwidth			6 MHz
Modulation			8VSB
Constellation	QPSK, 8PSK	QPSK, 8PSK	
Guard Interval			
FEC	DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10	DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10	
FFT Size			
Symbol Rate	DVB-S: 1 Msps ~ 45 Msps DVB-S2: 1 Msps ~ 45 Msps	DVB-S: 1 Msps ~ 45 Msps DVB-S2: 1 Msps ~ 45 Msps	
Signal Level	-70 dBm ~ -20 dBm	-70 dBm ~ -20 dBm	-80 MHz ~ -20 dBm
Roll-off Factor	0.15, 0.20, 0.25, 0.35	0.15, 0.20, 0.25, 0.35	

HDMI Encoder Modules



Module	Professional HDMI Encoder	Commercial HDMI Encoder
Input	4 channels via 4 HDMI female connectors (HDMI 1.4)	4 channels via 4 HDMI female connectors (HDMI 1.4)
Video	H.264/AVC HD: MP/HP @L4.0 SD: MP/HP@L3.0 MPEG-2 SD: MP@ML	H.264/AVC HD: H.264/AVC HD: MP/HP @L4.0/4.1/4.2 SD: MP/HP@L3.0/3.1/3.2
Resolution	SD: 576i50, 480i59.94 HD: 1080p- 25/30/25/30/50/59.94/60 1080i-50/59.94/60 720p-50/60	SD: 576i50, 480i59.94 HD: 1080p-25/30/50/59.94/60 1080i-50/59.94/60 720p-50/60 *Output supports progressive only, and resolution supports up to 1920*1080p30
Bitrate Control	CBR/VBR	CBR
Video Bitrate	1,000 Kbps ~ 14,000 Kbps	600 Kbps ~ 12,000 Kbps
GOP Structure	IBBP, IPPP, IBP	IPPP
GOP Size	6 ~ 63	1 ~ 99
Aspect Ratio	Automatic or Manual	Automatic or Manual
Audio	MPEG-1 Layer II, AAC, AC3	MPEG-1 Layer II, AAC, AC3
Audio Bitrate	32 Kbps ~ 384 Kbps	32 Kbps ~ 384 Kbps
Audio Mode	Stereo (2.0, including downmix)	Stereo (2.0, including downmix)
Audio Sampling Rate	48 kHz	48 kHz
Audio Volume Leveling	-20 dB ~ 20 dB	-20 dB ~ 20 dB
OSD Overlay		Text, Image, QR Code

HDMI Encoder Modules



Module	HEVC HDMI Encoder (4-CH)	HEVC HDMI Encoder (8-CH)
Input	4 channels via 4 HDMI female connectors (HDMI 1.4)	8 channels via 8 HDMI female connectors (HDMI 1.4)
Video	H.264/AVC MP/HP@4.2 H.265/HEVC MP@L4.1	H.264/AVC MP/HP@4.2 H.265/HEVC MP@L4.1
Resolution	HD: 1080p - 29.97/30/50/59.94/60 1080i - 29.97/30/50/59.94/60 720p - 50/59.94/60 SD: 576i50 576p50 480i - 59.94/60 480p - 59.94/60	HD: 1080p - 29.97/30/50/59.94/60 1080i - 29.97/30/50/59.94/60 720p - 50/59.94/60 SD: 576i50 576p50 480i - 59.94/60 480p - 59.94/60
	*Output supports progressive only, and resolution supports up to 1080p30	*Output supports progressive only, and resolution supports up to 1080p30
Bitrate Control	CBR	CBR
Video Bitrate	600 Kbps ~ 20000 Kbps	600 Kbps ~ 20000 Kbps
GOP Structure	IPPP	IPPP
GOP Size	1 ~ 60	1 ~ 60
Aspect Ratio	Automatic or Manual	Automatic or Manual
Audio	MPEG-1 Layer II, AAC, AC3	MPEG-1 Layer II, AAC, AC3
Audio Bitrate	32 Kbps ~ 192 Kbps	32 Kbps ~ 192 Kbps
Audio Mode	Stereo 2.0	Stereo 2.0
Audio Sampling Rate	48 kHz	48 kHz
Audio Volume Leveling	-20 dB ~ 20 dB	-20 dB ~ 20 dB
OSD Overlay	Text, Image, QR Code	Text, Image, QR Code

HDMI Encoder Modules



Module	HDMI Encoder with CC	HDMI Encoder with ZPbPr/CC
Input	2 channels via 2 HDMI Female connectors (HDMI1.4) CC via RCA connector	2 channels via 2 HDMI Female connectors (HDMI1.4) CC via DB15 port
Video	H.264/AVC HD: MP/HP@L4.0 SD: MP/HP@L3.0 MPEG-2 SD: MP @ML HD: MP@HL	H.264/AVC HD: MP/HP@L4.0 SD: MP/HP@L3.0 MPEG-2 SD: MP @ML HD: MP@HL
Resolution	SD: 576i50, 480i59.94 HD: 1080p - 25/30/50/59.94/60 1080i - 50/60 720p-50/60 *The maximum output resolution is 1080i60	SD: 576i50, 480i59.94 HD: 1080p - 25/30/50/59.94/60 1080i - 50/60 720p-50/60 *The maximum output resolution is 1080i60
Bitrate Control	CBR	CBR
Video Bitrate	1,000 Kbps ~ 18,000 Kbps	1,000 Kbps ~ 18,000 Kbps
GOP Structure	IBBP, IPPP, IBP	IBBP, IPPP, IBP
GOP Size	6 ~ 63	6 ~ 63
Aspect Ratio		
Audio	MPEG-1 Layer II, AAC-LC/HE, AC3	MPEG-1 Layer II, AAC-LC/HE, AC3
Audio Bitrate		
Audio Mode	Stereo (2.0, including downmix)	Stereo (2.0, including downmix)
Audio Sampling Rate	48 kHz	48 kHz
Audio Volume Leveling		
OSD Overlay		

OFDM/QAM Modulation Modules



Module	QAM Modulation	QAMA Modulation	OFDM Modulation	QAMB Modulation
Output	16 non-adjacent frequencies via 1 RF female connector 75 Ω	4/8 frequencies via 1 RF female connector 75 Ω	4/8 frequencies via 1 RF female connector 75 Ω	4/8 frequencies via 1 RF female connector 75 Ω
1 x RJ45	Reserved for scrambling			
Standard	ITU-T J.83 Annex A/B/C	ITU-T J.83 Annex B	ETSI EN 300744	ITU-T J.83 Annex B
Frequency Range	47 MHz ~ 862 MHz	47 MHz ~ 862 MHz	47 MHz ~ 862 MHz	47 MHz ~ 862 MHz
Bandwidth	6/7/8 MHz	6/7/8 MHz	8 MHz	6/7/8 MHz
Constellation	16QAM / 32QAM / 64QAM / 128QAM / 256QAM	64QAM/256QAM	QPSK/16QAM/64QAM	64QAM/256QAM
Guard Interval			1/4, 1/8, 1/16, 1/32	
FFT Size			2k, 8k	
Code Rates			1/2, 2/3, 3/4, 5/6, 7/8	
Symbol Rate	3.6 Ms/s ~ 6.9 Ms/s	3.6 Ms/s ~ 6.9 Ms/s		3.6 Ms/s ~ 6.9 Ms/s
Output Level	Max. 106 dB μ V	Max. 105 dB μ V	Max. 105 dB μ V	Max. 105 dB μ V
MER	>40 dB	\geq 32 dB	\geq 32 dB	\geq 32 dB