airscreen tality™

1 RU Professional Hospitality Video Headend

Conceived to address the unique needs of hotels, schools, hospitals and MDUs, airScreen tality™ offers the flexibility, reliability and features required to deploy a secure CATV and/or IPTV solution simply, quickly and at an affordable budget.

Compact & Powerful
The convenient 1 RU package can host up to 6 hot-swappable modules to address the full range of functionalities required to deliver video over coax or IP networks including receiving, de-scrambling, encoding, multiplexing, re-scrambling and modulating a transport stream over QAM, OFDM or IP.

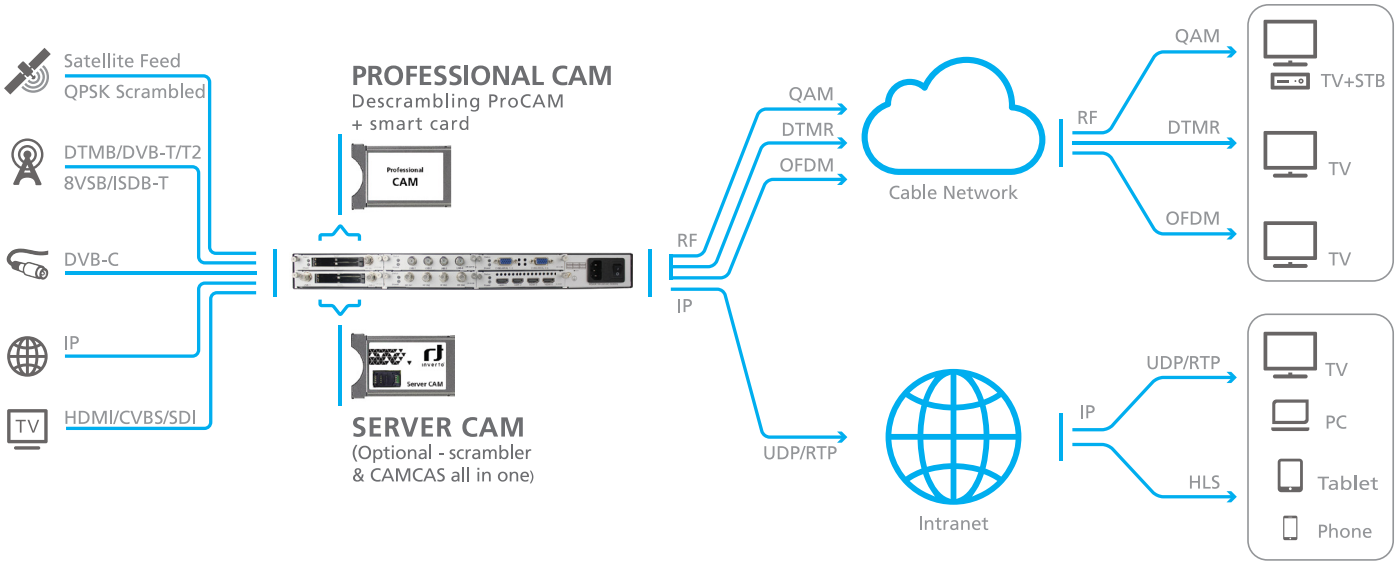
Reliable & Energy efficient
airScreen tality™ boasts a compact form factor and an energy efficient system design. A built-in service level monitoring and with the optional dual power supply guarantee a non-stop 24/7 operation. Consequently, airScreen tality™ is an environmental, reliable and space saving design to keep your OPEX low for years to come.

Product Features:

- 1 RU with up to 6 functional modules
- Service level multiplexing
- SI/PSI analysis and regeneration
- Web-based configuration
- FCC and UL approved
- Up to 24 receive frequencies
- Up to 24 channels HD encoding (via HDMI in inputs)
- Up to 48 channels SD encoding (via CVBS inputs)
- Up to 48 modulated frequency outputs
- Optional 8 Ch modulation module at front panel

Reliability Features:

- Hot-swappable modules
- Service level monitoring
- Dual redundant power supply (optional)
- Low power consumption and high reliability
- MTBF ≥100,000 hours



airScreen tality™ 1RU

The airScreen tality™ 1 RU is a perfect choice for smaller scale MATV/CATV/IPTV deployments requiring secure, low power, cost-effective and reliable distribution of video with a simple and easy to use centralized management.

airScreen tality™ 1 RU can receive signals from several sources as depicted above, descramble encrypted programs utilizing CI CAMs, multiplex them into new transport streams and output as QAM/OFDM modulated signals or IPTV streaming (TS over IP) over its built-in GbE interface. Utilizing a unique CAS implementation based on XCrypt's CI-based CAMCAS solution, the programs can be re-encrypted on real-time basis and delivered to the rooms with an end-to-end studio-grade security.

CAMCAS encrypted programs can be decoded by a common XCrypt-embedded STB or with a CI+ XCrypt CAM inserted in the TV set. Deployments over IP networks require the STB or TV set to provide an IP interface.

Free-to-view non-encrypted programs can be streamed over IP (UDP/RTP) to users' PC or mobile devices using supporting player applications.

airScreen tality™ 1 RU supports redundant power supply and is delivered in a compact 1 RU chassis, saving space and operating costs.

Chassis

6 hot-swappable slot
Service level multiplexing
4 x Gigabit RJ45 (embedded):
  MPEG TS over UDP/RTT
  SPTS/MPTS
  Max. 120 inputs and 120 outputs
Optional (either):
  Dual redundant power supplies, or
  8-Ch modulation module at front

Physical & Environment

Input Voltage	100 VAC ~ 240 VAC
Power	120 W
Chassis dimension (W x H x D)	(120 x 177 x 345) mm, 1 RU
Operating temperature	0°C ~ 50°C
Storage temperature	-10°C ~ 70°C
Operating Humidity	<95%
MTBF	≥100,000 h

Receiver Modules

Module	DVB-C Receiver	DVB-C/ISDB-T Receiver		DVB-T/T2 Receiver
	DVB-C Mode	DVB-C Mode	ISDB-T Mode	
Item	6403	5812	5812	6173
Input	4 channels via1 RF female connector	4 channels via1 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 dBµV ~ 80 dBµV	40 dBµV ~ 80 dBµV	-80 dBm ~ -20 dBm	-80 dBm ~ -20 dBm
Roll-off Factor				

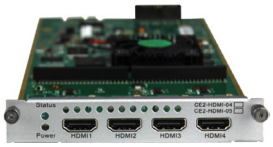
Receiver Modules

Module	DVB-S/S2 FTA Receiver	DVB-S/S2 with CI Receiver	8VSB Receiver Module (ATSC)
Item	5809	6274	5807
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**
Item	6419	6157
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 @ L4.0/4.1/4.2/5.0/5.1/5.2 H.265/HEVC HD: MP (High Tier) @ L4.0/4.1/4.2/5.0/5.1/5.2	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	Input: 1080i-50/59.94/60, 1080P-25/29.97/30/50/59.94/60, 720P-50/59.94/60 Output: 1080P-25/29.97/30/50/59.94/60, 720P-50/59.94/60	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	CBR
Video Bitrate	600 Kbps ~ 12 Mbps	600 Kbps ~ 12,000 Kbps
GOP Structure	IPPP, IBP	IPPP
GOP Size		1 ~ 99
Aspect Ratio	16:9	Automatic or Manual
Audio	MPEG-1 Layer II, AAC (optional), AC3 (optional)	MPEG-1 Layer II, AAC, AC3
Audio Bitrate	32 Kbps ~ 192 Kbps	32 Kbps ~ 384 Kbps
Audio Mode	Stereo	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	2*Logo/QR code overlay (40*40 to 256*256) Or 1*static OSD overlay	Text, image, QR code
Power consumption	Max. 20 W	

HDMI Encoder Modules



Module	**HEVC HDMI Encoder (4-CH)**	**HEVC HDMI Encoder (8-CH)**
Item	5804	5803
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 *Output supports progressive only, and resolution supports up to 1080p30	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
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 YPbPr/CC**
Item	6315	6371
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		

CI Scrambler/Descrambler

Module	**CI Scrambler/Descrambler**
Item	6172
Standard	EN 50221
Interface	2 PCMCIA CI slots
CAM Scrambling	Support Xcrypt CAMCAS
CAM Descrambling	Supports mainstream CAS Descrambled channel quantity depends on CAM capability, 2CAMs could be different

CVBS Encoder

Module	**CVBS Encoder**
Item	6234
Input	16 channels via 4 DB15 connectors, each DB15 for 4 channels, 4 x RCA-DB15 adaptor cables come along with module
Video	H.264/AVC SD: MP/HP@L3.0/3.1/3.2
Resolution	SD: 576i50, 480i59.94
Bitrate Control	CBR
Bitrate	1.000 Kbps ~ 8.000 Kbps
GOP Structure	IPPP
GOP Size	1 ~ 99
Aspect Ratio	Automatic or manual
Audio	MPEG-1 Layer II
Audio Bitrate	32 Kbps ~ 384 Kbps
Audio Mode	Stereo (2.0, including downmix)
Sampling Rate	48 kHz
Audio Volume Leveling	-20 dB ~ 20 dB
OSD Overlay	Text, image, QR code

OFDM/QAM Modulation Modules




Module	QAM Modulation	QAMA Modulation	OFDM Modulation	QAMB Modulation
Item	6206 (A/C) / 6205 (B)	5793 (4ch) / 6314 (8ch)	6370 (4ch) / 6273 (8ch)	5789 (4ch) / 5788 (8ch)
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 A/C	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	16QAM / 32QAM / 64QAM / 128QAM / 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 dBµV	Max. 105 dBµV	Max. 105 dBµV	Max. 105 dBµV
MER	>40 dB	≥32 dB	≥32 dB	≥32 dB

Processing Module

Module	**Processing Module**
Item	6414
Input	DVB-S/S2/S2X/T/T2/C/ISDB-T/DTMB/IP
Output	QAM/OFDM/ISDB-T/DTMB/IP
Standard	DVB standard
Processing Capability	32 TS stream input, 16 TS stream output Up to 100 services depending on the EIT complexity of signal source
Content Processing	Automatic update for Original Network ID, TS ID and Service ID
EIT Table Generation	EIT table with PID 18 will be generated after the processing
TDT/TOT Table	TDT/TOT table with PID 20 will be passed through to the output
EIT Enable/Disable Control	Module Level, TS Level, Service Level
Supported EIT Module in Each Chassis	1
Status Display	Service name and service list Signal source and output module EIT multiplexing success/failure display at service level
Configuration	Configuration can be exported and imported to the module
Software Upgrade	Web-based software upgrade
Log	Support Enable/Disable control, Live logging and log file export
License	License control is available for authorization time control
Power Consumption	Max. 5 W

ISDBT Modulation Module

Module	**ISDBT Modulation**
Item	6415
Output	8 frequencies via 1 RF female connector 75 Ω
Standard	ETSI EN 300744
Frequency Range	47 MHz ~ 862 MHz, non adjacent
Bandwidth	6 MHz
Constellation	QPSK/16QAM/64QAM
Guard Interval	1/4,1/8,1/16,1/32
Transmission Mode	2K
Code Rates	1/2,2/3,3/4,5/6,7/8
Output Level	Max .105 dBµV
MER	≥40 dB
Power Consumption	Max. 23 W

airScreen tality™ 1 RU modules and references:

Item	Description	Model
5885	airScreen tality™ - Video Headend 1RU Chassis with PSU	IDLA-CHASO1-1RUOO-OPW
5897	airScreen tality™ - Video Headend 1RU Chassis with dual PSU	IDLA-CHASO1-1RUOO-2PW
5923	airScreen tality™ - Video Headend 1RU Chassis (modulation module at front)	IDLA-CHASO1-1RUMO-OPW
5807	airScreen tality™ Module 8VSB Receiver (ATSC)	IDLA-R8VSB1-ATSCO-OPW
6403	airScreen tality™ Module DVB-C Receiver	IDLA-MRECO1-YPBPR-OPW
5812	airScreen tality™ Module DVB-C/ISDB-T Receiver	IDLA-RDVBC1-ISDBT-OPW
6173	airScreen tality™ Module DVB-T/T2 Receiver	IDLA-RDVBT2-T2OOO-OPW
6274	airScreen tality™ Module DVB-S/S2 with CI Receiver	IDLA-MDVBO1-S2CIR-OPW
5809	airScreen tality™ Module DVB-S/S2 FTA Receiver 4 Ch	IDLA-RDVBS1-S2F4C-OPW
6158	airScreen tality™ Module DVB-S/S2 FTA Receiver 8 Ch with DiSEqC	IDLA-RDVBS3-S2F8C-APW
6419	airScreen tality™ Module Professional HDMI Encoder	IDLA-EHDMI4-OOOOO-OPW
6157	airScreen tality™ Module Commercial HDMI Encoder	IDLA-EHDMI2-OOOO4-OPW
6232	airScreen tality™ Module Professional CVBS Encoder 6 Ch	IDLA-ECVBS2-O6COO-APW
6233	airScreen tality™ Module Commercial CVBS Encoder 8 Ch	IDLA-ECVBS2-O8COO-APW
6234	airScreen tality™ Module Commercial CVBS Encoder 16 Ch	IDLA-ECVBS2-16COO-APW
6315	airScreen tality™ Module HDMI Encoder with CC	IDLA-EHDMI3-OCVBS-OPW
6371	airScreen tality™ Module HDMI Encoder with YPbPr/CC	IDLA-MENCO1-YPBPR-OPW
5804	airScreen tality™ Module HEVC HDMI Encoder 4 Ch	IDLA-EHDMIC1-HEVC4-OPW
5803	airScreen tality™ Module HEVC HDMI Encoder 8 Ch	IDLA-EHDMIC1-HEVC8-APW
6366	airScreen tality™ Module SDI Encoder 2 Ch	IDLA-ESDIO2-2COOO-OPW
5796	airScreen tality™ Module EAS Processing	IDLA-PEASO1-OOOOO-OPW
6172	airScreen tality™ Module CI Scrambler/Descrambler	IDLA-MENCO1-YPBPR-OPW
6206	airScreen tality™ Module QAM Modulation Annex A/C non-adjacent 16 Ch	IDLA-MQAMO1-16CAO-OPW
6205	airScreen tality™ Module QAM Modulation Annex B non-adjacent 16 Ch	IDLA-MQAMO1-16CBO-OPW
5793	airScreen tality™ Module QAM Modulation Annex A/C 4 Ch	IDLA-MQAMA1-4CHOO-OPW
6314	airScreen tality™ Module QAM Modulation Annex A/C 8 Ch	IDLA-MQAMA1-8CHOO-APW
5789	airScreen tality™ Module QAM Modulation Annex B 4 Ch	IDLA-MQAMB1-4CHOO-OPW
5788	airScreen tality™ Module QAM Modulation Annex B 8 Ch	IDLA-MQAMB1-8CHOO-APW
6370	airScreen tality™ Module OFDM Modulation 4 Ch	IDLA-MFDMO1-OO4CH-OPW
6273	airScreen tality™ Module OFDM Modulation 8 Ch	IDLA-MFDMO1-OO8CH-OPW
5859	airScreen tality™ XCrypt-embedded DVB-C HD zapper with HDMI output and IR extender	IDLA-XSTB1-OOHIR-OPR
5860	airScreen tality™ XCrypt CAMCAS server CAM for scrambling up to 16 services	IDLA-XCAM1-OO16X-OPR
5861	airScreen tality™ XCrypt CI+CAM	IDLA-XCIM1-OOOOO-OPR
6415	airScreen tality™ Module ISDBT modulator non-adjacent 8 Ch	IDLA-ISDMO1-OO8CH-OPW
6414	airScreen tality™ EIT multiplexing module, 32 x TS inputs and 16 x TS outputs	IDLA-MULTO-EIT32-OPW

Depending on configuration and expansion stages, licenses may be required

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