FAGOR ELECTRÓNICA | IKUSI

TV reception and headends

Deliver a high quality TV experience and get the most out of your content investment.

FLOW
HTI
TIT series
SIT series
HAN series
ENC-108
ICONN series

IKUSI FLOW

The first Smart TV Headend

Multi-standard Ikusi Flow adapts to your present and your future

High density

Small footprint per channel

Capable of processing more than 200 SD services or 120 services

Content management

Manages content, not technical parameters

User-friendly interface, minimising configuration time

Double security
Premium content is always protected by the inclusion of DRM protection.

One platform for all your TV needs
Designed to convert any TV input to any TV output

IKUSI FLOW

FLOW IN4 (Ref. 4319)
Input module. Frontend.
Quadruple tuner.
Universal multi-standard input: DVB S/S2/T/T/T2/C.
Auto scan.
Discovery of the services present on the connected cables
Hot swap without manual reconfiguration.

FLOW ENC + (Ref. 4321)
Encoder module.
4 x HDMI inputs
MPEG4 H.264 or H265 video compression.
Full HD quality.
Up to 40 HDMI
HDMI inputs in a 4RU rack.

FLOW HUB (Ref. 4314)
Platform control unit.
It manages all the internal parameters of the head-end.
Connected head-end: own wifi + LAN interface.
Local and remote access.
Guided configuration through a wizard.
2 x gigabit ethernet ports for IPTV multicast..
Support for back-up modules.

FLOW SEC (Ref. 4311)
Security Management Module.
Decryption (CAS) and encryption (DRM).
2 x CI slots per module.
Manages services coming from any input and going to any output.
Automatic CAM restart in case of decryption failure.
Support up to 15 SPTS per CAM (30 SPTS per module).

FLOW OUT (Ref. 4313)
Output module. Backend.
Universal quad/sextuple and multi-standard DVB-T/DVB-C output.
Up to 8 SPTS per carrier = 32 SPTS per module.
Output level from 78 to 108 dbmV.

FLOW PSU (Ref. 4308)
Platform power supply.
More efficient: Half-bridge technology....
Thermal protection (against external air-conditioning failure) .
Power Factor Corrector.

IKUSI FLOW

FLOW BASE (Ref. 4312)
Platform chassis.
Self-assembled chassis.
19" rack or wall mounting with the same base.
Mounting without tools or accessories.
Actual height of 4RU (including cable glands)...

FLOW COVER (Ref. 4316)
Platform ventilation cover.
Magnetic connection with triple function:
mechanical adjustment, fan power supply and speed control
5 x fans.
Magnetic technology: no noise and no friction.

FLOW RPSU REDUNDANT (Ref. 4320)
Redundant power supply .
Ensures uninterruptible power supply.
Can be replaced without disconnecting from the headend
Integrates two identical power supplies in 1RU chassis.

FLOW IRD Extender (Ref. 1051)

FLOW STB AC3+ (Ref. 4329)
Set-Top-Box to be integrated with Flow Device MGR.
High picture and sound quality.
Fast data processing.
On demand functions.
Programmable control.

REF.	MOD.	DESCRIPTION
4319	FLOW IN 4	Input module. Frontend.
4321	FLOW ENC+	Encoder.
4314	FLOW HUB	Platform control unit.
4311	FLOW SEC	Security Management Module.
4313	FLOW OUT	Output module. Backend.
4308	FLOW PSU	Platform power supply.
4312	FLOW BASE	Plataform chassis.
4316	FLOW COVER	Platform ventilation cover.
4320	FLOW RPSU REDUNDANT	Redundant power supply.
4329	FLOW STB AC3+	Set-Top-Box to be integrated with Flow Device MGR.
1051	FLOW IRD Extender	Extender.

Device Manager

DEVICE MANAGER

Device Manager is the new Application integrated in Ikusi FLOW that offers centralised management of the contents and devices of the IPTV network, allowing:

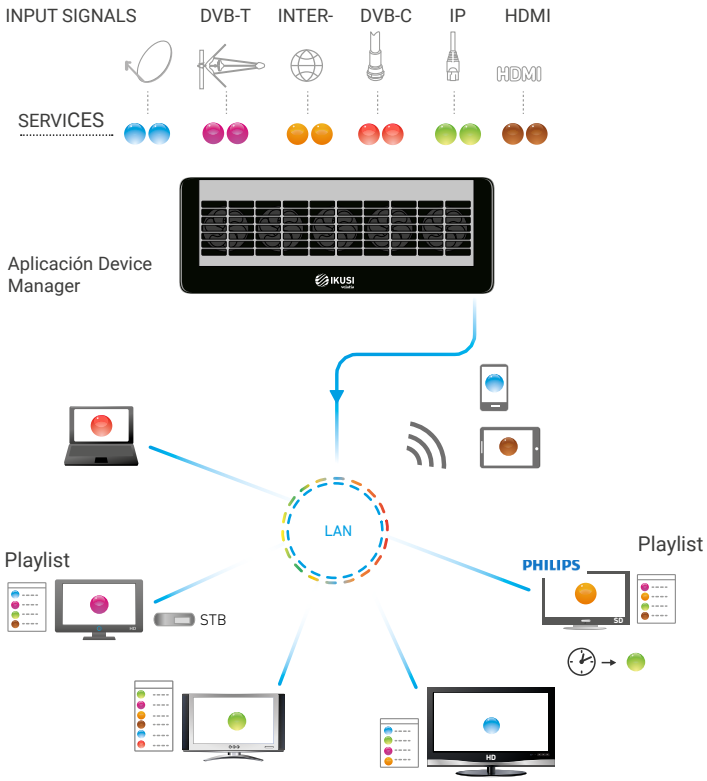
Making different lists offering the possibility of sending groups of contents to devices individually or by groupings. Making it possible to control the content available on each of the televisions.

Individually select the content to be played on each viewing device (or multi-screen spaces) remotely, allowing management and control of what is played at each viewing point.

To be able to switch on, switch off and control the sound of the main TV manufacturers. As well as the list of available services, knowing their status and the content that is being played.

Ikusi Device Manager is compatible with the main brands of televisions:

EXAMPLE



HTI - Universal High Intensity Headend

HTI-424 3863
Quad transmodulator with IPTV.
Receives content from 4 DVB-T/T2, DVB-S/S2, DVB-C or IPTV transponders/multiplex, decrypts it and transmits it on 4 DVB-T or DVB-C output channels or on IPTV.
4 DVB-T or DVB-C output channels or IPTV.
Dual Common Interface and Ethernet Connector.Single input+loop or 4 IP Multicast inputs,
IP Unicast Multistream supported.

HTA-125 3868
Power amplifier: Amplifies RF signals from HTI headends.

PSU-150 3865
Switched mode power supply for powering the HTI head-end modules.
HTI head-end modules.

Accessories

BACK-500 3866
Support base for 5 HTI modules

SR-HTI 3867
6U high 19” rack support

USB-300 4284
USB-Ethernet adapter for remote control

REF.	MOD.	DESCRIPTION
3863	HTI-424	Quad transmodulator with IPTV.
3868	HTI-125	Power amplifier.
3865	PSU-150	Power supply.
3866	BACK-500	Support base for 5 HTI modules
3867	SR-HTI	6U high 19” rack support

HTI - Universal High Density Headend

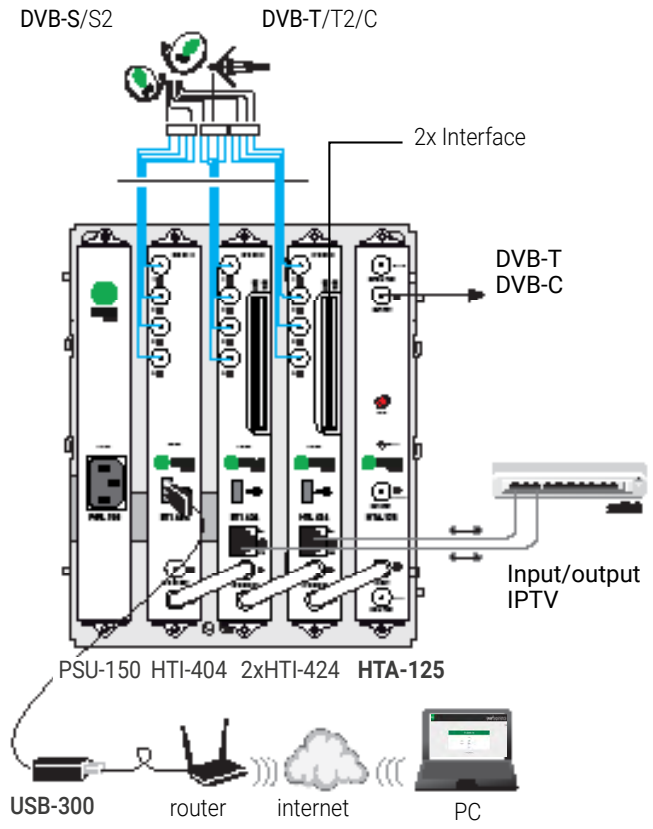
HIGH DENSITY AND FLEXIBILITY
Up to 32 universal DVB inputs per base
Up to 32 RF outputs or 256 IPTV outputs per cradle

IPTV INPUT READY
Up to 32 IPTV inputs per base

ADVANCED ROUTING MATRIX
From any input to any output.
Decryption in any CAM.
No compromises

MULTISTREAM
SUPPORTED+ of 200
additional TV channels

CHANNEL
PRE-RESERVATION
To avoid future
re-tuning of TV sets.



AUDIO SPLITTING
Generation of one
TV channel per audio

INDEPENDENT OUTPUT CHANNELS
Distributed anywhere on the band

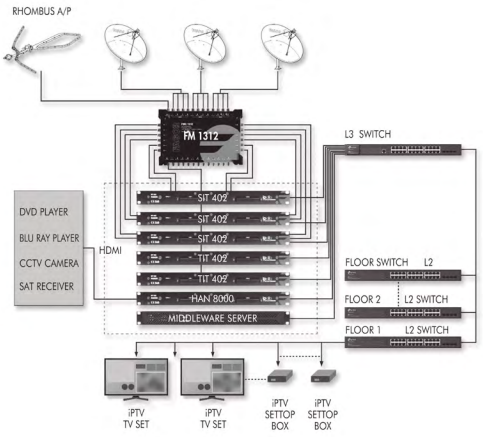
INTERCONNECTED SUPPORT BASE
REDUNDANT POWER SUPPLY
Power supplied via the backplane, without bridges

TERRESTRIAL TV TO IP STREAMER

TIT Series

These transmodulators take services from digital Terrestrial TV channels and, after selecting the desired services, convert them for IPTV distribution into an Ethernet network. Common Interface models allow you to decode encrypted services using CAM modules and subscriber cards.

Example



FEATURES

- The metal case is ready for the 19" rack mounting and has the possibility of adding ventilation fans.
- Each module has two independent streaming outputs with a capacity of more than 12 services each one.
- The modules are programmable through its web server locally or in remote mode.
- PID filtering.
- Possibility of creating services mixing Audio PID's with Video PID's. For instance, two services with the same video but with audio in two different languages.

MODEL		TIT 402	TIT 422
Reference		08245	08246
INPUT			
Inputs		4 (2 +2)	
Standard		DVB-T (EN 300 744, EN 302 755)	
Frequency range	MHz	174 ÷ 862	
Input level	dBµV	47 ÷ 90	
FEC mode		LDPC+BCH/ Convolutional Coding+Reed Solomon	
Code rate		1/2,3/5, 2/3, 3/4,4/5, 5/6, 7/8	
Guard interval		1/4, 1/8, 1/16, 1/32; (19/128, 19/256, 1/128)	
FFT		2K, 8K / 1K, 2K, 4K, 8K, 16K, 32K	
DC pass		Switchable 12Vdc 100mA	
DVB-SI & TS PROCESSING			
Conditional access		NO	EN 50221
Table processing		PAT, PMT, SDT, PID filtering, Service creation and edition	
Output format		SPTS/MPTS	
OUTPUT			
Number		2 independents	
Number of services		32 (2x16)	
Physical interface		Ethernet 100-BaseT over RJ-45 (IEEE 802.3u)	
TCP/IP Streaming protocol		IP multicast (RTP or UDP)	
Signalling protocols		SAP	
CONTROL INTERFACE			
Number		2 independents	
Physical Standard		Ethernet 1000-BaseT over RJ-45	
Protocol		Web Server	

SAT TO IP STREAMER

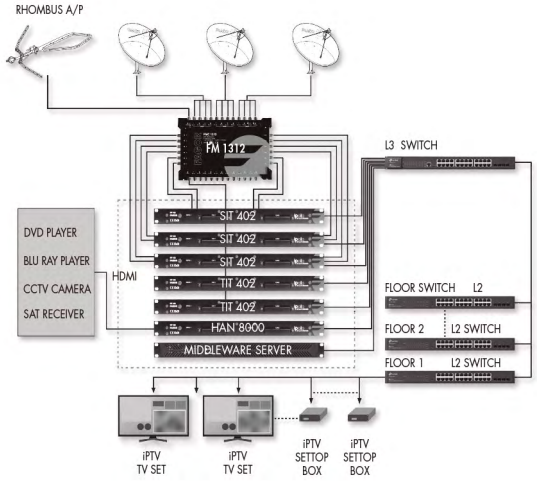
SIT series

These devices take services from satellite transponders and after selecting them, transmit them in IP packages for their distribution in an Ethernet network. The Common Interface models allow to decrypt scrambled services using CAM's and cards with rights.

FEATURES

- The metal case is ready for the 19" rack mounting and has the possibility of adding ventilation fans.
- Each module has two independent streaming outputs with a capacity of more than 12 services each one.
- The modules are programmable through its web server locally or in remote mode.
- PID filtering.
- Possibility of creating services mixing Audio PID's with Video PID's. For instance, two services with the same video but with audio in two different languages.

Example



MODEL		SIT 402	SIT 422
Reference		08240	08241
INPUT			
Inputs		4 (2 + 2, Loop or independent)	
Modulation type		QPSK, 8-PSK	
Frequency range	MHz	950 ÷ 2150	
Input level	dBµV	47 ÷ 86	
Symbol Rate	MB	1 ÷ 62 / 1 ÷ 45	
Code rate		1/2, 2/3, 3/5, 3/4, 4/5, 5/6, 7/8, 8/9, 9/10	
Roll-Off		0.15, 0.20, 0.25, 0.35	
LNB control		22 KHz 13/17 V or DiSEqC 1.0	
DVB-SI AND TS PROCESSING			
Conditional access		NO	EN 50221
Table processing		PAT, PMT, SDT, PID filtering, Service creation and edition	
Output format		SPTS/MPTS	
OUTPUT			
Number		2 independent	
Number of services		32 (2x16)	
Physical interface		Ethernet 100-BaseT over RJ-45 (IEEE 802.3u)	
TCP/IP Streaming protocol		IP multicast (RTP or UDP)	
Signalling protocols		SAP	
CONTROL INTERFACE			
Number		2 independent	
Physical Standard		Ethernet 100/1000-BaseT over RJ-45	
Protocol		Web Server	

HDMI TO IP STREAMER

HAN series

The HAN 8000 encoder modulates ,the content of 4 HDMI input (MPEG-4 AVC/H.264 HD) signals to a DVB-ASI or IP output.

APPLICATION

It is used to watch the content of several HD digital sources, such as satellite receivers, DVD or Blue-ray players, etc, on a TV equipped with a DTT receiver

FEATURES

- Multiplexer function for 4 HDMI inputs (MPEG-4 AVC/H.264 HD).
- Supports HDCP
- HD resolution up to 1920*1080_60p.
- MPEG-1 Layer 1, Layer 2 audio encoding.
- Programming via front panel (keyboard + LCD display) or PC (local or remote).
- Mountable in 19” rack.
- Includes:
- 1 x BNC-F(m) cable for one COFDM output.
- 1 x user’s manual.
- 1 x 230Vac cable.

Includes:

- 1 x BNC-F cable (m), for one of the COFDM outputs.1
- x User’s manual.
- 1 x Power cable 230 Vac.

Supply voltage	V	90 ÷ 250
Consumption	W	25
Operating temperature range	°C	0 ÷ 45

MODEL		HAN 8000
Reference		08205
VIDEO ENCODING		H.264/AVC High Profile Level 4.0 (HD)
Input		HDMI x 4 + ASI
Resolution		1920*1080_60p, 1920*1080_50p; 1920*1080_60i, 1920*1080_50i; 1280*720_60p, 1280*720_50p
AUDIO ENCODING		MPEG1 Layer II
Sample rate	KHz	34/44,1/48
Bit rate	Kbps	128, 160, 192, 224, 256, 320, 384
ASI OUTPUT		DVB-ASI
Connector type		2 x BNC, 75 Ohm
IP OUTPUT		IP/UDP (TS over IP); MOTPS/SPTS/Unicast/Multicast
Connector Type		RJ-45
Output bit rate	Mbps	80 (4:2:0)
Programming		Keyboard + LCD / NMS (Ethernet RJ-45)
Packing dimensions	mm	580 x 580 x 135
Weight	Kg	6.2

ENCODER

ENC-108

Encoder with 8 HDMI inputs to IP. With the ENC-108 you will be able to distribute IP signals from your receivers, cameras, video players, PCs, etc. ....

APPLICATION

- It is a solution for distributing signals from DTT receivers, cameras, DVDs, Blue Ray players, etc...

CHARACTERISTICS

- 1Video encoding in H.264 and audio encoding in MPEG-1 Layer II or AAC.
- Supports all major resolutions from 480i to 1080p60
- Offers 8 IP output addresses in SPTS (unicast or multicast)
- Easy configuration with built-in web user interface
- Desktop or 19” Rack installation

MODEL	ENC-108
Reference	4325
HDMI INPUT	
Input Connector	HDMI X 8
VIDEO	
Encoding	H.264
Input Resolution	See resolcutions table
Bit rate	20~19000Kbps
AUDIO	
Coding	MPEG 1 Layer II, AAC
Sampling rate	32 / 44.1 / 48 KHz
Bit rate	384 Kbps
IP OUTPUT	
Output Connector	1 port of 100/1000 Mbps
Transport Protocol	UDP, RTP
Output transport stream	SPTS
Transmission Mode	UniCast or MultiCast
GENERAL	
Power Consumption	< 7W
Rack space	1U
Dimensions	318 x 260 x 44 mm
Net Weight	3,058Kg
Language	Spanish /English

SET-TOP-BOX for IPTV HD

ICONN

Device enabling reception of digital interactive TV,
IPTV and digital signage media

Supply voltage	V	90 ÷ 250
Consumption	W	25
Operating temperature range	°C	0 ÷ 45

MODEL	iconn 200
Reference	10001
Processor	Amlogic S912 octa core ARM-A53 CPU up to 2GHz (DVFS)
GPU	ARM Mali-T820MP3 GPU up to 750MHz (DVFS)
Internal flash storage	16GB eMMC
RAM memory	2GB DDR3
RJ45 connector	1000M Ethernet
Wi-Fi	Support 802.11 a/b/g/n/ac Dual Band AC Wi-Fi
Wifi antenna connector	SMA connector + external 3dBi antenna included
USB	3 High Speed 2.0
Video output	1 x HDMI 2.0 up to 4K 1 x RCA
Video decoder	H.264 AVC HP@L5.1 up to 4Kx2K@30fps H.264 MVC up to 1080p@30fps MPEG-4 ASP@L5 up to 1080p@30fps WMV/VC-1 SP/MP/AP up to 1080p@30fps AVS-P16(AVS+) /AVS-P2 JiZhun Profile up to 1080p@30fps MPEG-2 MP/HL up to 1080p@30fps MPEG-1 MP/HL up to 1080p@30fps RealVideo 8/9/10 up to 1080P WebM up to VGA MJPEG up to 1080p@30fps
Protocols	IPTV Multicast (IGMP v2/v3) Video over UDP, RTP and HTTP HTML5 audio and video tags HLS (HTTP Live Streaming) MPEG DASH Video Streaming
Operating system	Android 7.1 Nougat
Operating temperature	0ºC-40ºC
Feeding	5 VDC
Consumption	< 2 A
Network adapter	100-240 VAC 50/60 Hz – 5VDC 2A
External dimensions	166x112x26 mm
Gross Weight	328gr

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