

THOMSON

DCI8000 product family Triple-play High-Definition Cable Video Recorder



CABLE

SATELLITE

TELECOM

TERRESTRIAL

Data Voice Video

MPEG-4 INTERACTIVE CABLE RECORDER WITH INTEGRATED OUT-OF-BAND DOCSIS/EuroDOCSIS CABLE MODEM

KEY CHARACTERISTICS:

- Supports H264 / AAC / VC1 with HDMI/HDCP digital output
- Compliant with open standards (DVB, DOCSIS, OCAP, multiple conditional access,...)
- Built-in dual broadcast tuner/demodulator and up to 500 Gbyte hard-disk drive for digital audio/video recording
- Built-in DOCSIS data / data+voice cable modem
- Wifi option for wireless data transfert

BENEFITS:

- Maximizes ARPU by enabling true triple play offers
- Lower churn
- Lowers deployment costs with remote management of installed base

FEATURES:

- Enables a wide range of interactive services:
 - Free and Pay-TV access
 - Pay-per-view
 - User friendly channel surfing
 - Advanced program selection
 - Broadcast interactivity
- 2-way on-line interactive services
 - Home shopping, betting, etc. . .
 - E-mail, TV chat
 - VOD / S-VOD
- Supports multiple Conditional Access solutions
- Supports multiple Middleware solutions
- Provisions for OCAP / DVB-MHP
- Remote management / diagnosis
- PC routing and network connectivity



Technical specification

TRIPLE BROADCAST CHANNEL INTERFACE

Modulation	64, 128, 256-QAM (ITU-J83 Annex A) 64, 256-QAM (ITU-J83 Annex B) (*)
Symbol rate	3.5 to 6.9 Msymb/s (ITU-J83 Annex A) 5.05 / 5.36 Msymb/s (ITU-J83 Annex B) (*)
Channel bandwidth	6 / 7 / 8 MHz
Frequency range	96-862 MHz

RF RETURN CHANNEL

Dual mode DOCSIS 2.0 / EuroDOCSIS 2.0 integrated modem

Downstream:

Modulation	64/256 QAM
Frequency range	108-862 MHz

Upstream:

Modulations	As per DOCSIS/EuroDOCSIS 2.0
Frequency range	5-42 / 5-65 MHz

MPEG VIDEO DECODER

Standards	ISO13818-2 (MPEG-2) – MP@ML MPEG-4 AVC – MP@L3 MPEG-4 AVC – HP@L4
Aspect ratio	4:3, 16:9, Pan & Scan, letter box
Video Scaling	Variable

OSD

Colours	16 / 256 colours
Resolution	2 to 8 bits per pixel
Overlay	MPEG stills/live image insertion Partial / full over analogue video

MPEG AUDIO DECODER

Standard	ISO 11172-3 / ISO 13818-3 (MPEG) MPEG-4 AAC – LC / HE Dolby Digital (AC3)
Decompression	MPEG Layers 1, 2 (Mono, Dual Channel, Joint Stereo, Stereo) Dolby Digital down-mix to stereo
SPDIF audio output format	PCM (decompressed stereo) Compressed Dolby digital (5.1)
Option	MP3 Dolby Digital Plus (E-AC3)

TELEPHONY FEATURES

Standard	EuroPacketCable
Call Control Protocol (*)	SIP
Codecs	G711, G728 & G729E
Features	Multi-lines Phone support Basic & Extended residential class features

SYSTEM RESOURCES

Processor	RISC / 400 DMIPS @ 266 MHz
System RAM (video + data)	128 Mbytes
FLASH	16/32 Mbytes

LOADER

Full code software download mechanism
Authentication of downloaded material

FRONT PANEL

4 digits – 7 segments display (*)
16-character – 5x7 dot-matrix VFD display (*)
3 LEDs
8 keys max
Smart-card slot(s) without door/flap
Backlighted brandname (*)

REMOTE CONTROL PROTOCOLS

R2000 (Thomson), RC-5/6 – RCMM 1.5 (Philips), r-STEP (Ruwidio), NEC (*)

(*) Can be supported as option

SOFTWARE

Middleware solutions	OpenTV™ Core 2.0 - THOMSON control task for OpenTV Core NDS™ MediaHighway™ DVB MHP(*)
Access control	OCAP / DSG (*) (under development) NAGRAVISION™, CONAX™, MEDIAGUARD™, VIACCESS™, IRDETO™, VIDEOGUARD™(*)

THOMSON look & feel (with OpenTV middleware):

Set-up menu	Automatic channel installation, diagnosis, decoder configuration, parental control
Banner feature	Basic & virtual zapping with display of current / next event details, shortcut icons info
Mini-guide	Channel list scrolling with resized-video preview
Languages	Management of favorite lists Multilingual user interface Multilingual audio Multilingual signaling supported

Protocols / standards:

TCP/IP (modem and STB)
SNMP (modem)
EN 300 472 teletext re-insertion in the composite video signal
EN 300 472 & EN 300 743 teletext and subtitling decoding

INTERFACES

Mains input connector	Detachable lead
RF input	IEC-type, female or F type
RF output	IEC-type, male or F type (loopthrough)
SCART sockets	TV and VCR (with RGB loopthrough)
Analog Audio	Twin RCA Stereo audio outputs (left and right)
Analog Video	Triple RCA Y/Pr/Pb components outputs
Digital Audio	SPDIF audio output (electrical or optical)
Digital Video/Audio	HDMI with HDCP copy protection
Ethernet data port	10/100 baseT on modem (data access) 10/100 baseT on host CPU (*) One or two (*) USB 2.0 host
USB	RJ-11
PSTN modem port (*)	1 or 2 (*) slots, ISO 7816 1, 2 & 3
Smart card reader	RJ-11
Telephony line (*)	802.11G compliant data access
Wifi antenna (*)	

GENERAL DATA

Safety and EMC regulations compliant (CE marking)	
MTBF	> 80000 hours.
Operating temperature range	+5°C to +45°C
Mains voltage	230 Volts +/- 10 % (48/62 Hz) 100-264 Volt (*)
Power consumption	60W / Nom. 45W
Dimensions	394x276x58 mm

ACCESSORIES

Remote control with batteries
RF lead
HDMI Audio/video lead
Mains lead
PSTN lead (*)

OPTIONS

V22/22bis to V92 PSTN modem (*)
RF modulator (UHF range) (standards : PAL B/G, I, K, D) (*)
Channel 3-4 RF remodulator (NTSC) (*) (*)
RCA video output (*)
Additional pair of L&R RCA audio outputs with second RCA video output (exclusive with SCARTs) (*)
S-video output (*)
Second smart card reader : ISO 7816 1, 2 & 3 (*)
Second USB on the front panel (*)

OTHER

80-160-250-320 Gbytes hard-disk drive
Hardware support for set-top box pairing/mating

For more information

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