



Voice

Video

Data

Access Platform & Gateways

DCI6000

Triple-play Interactive Cable Video Recorder

THOMSON

MPEG-2 DIGITAL AUDIO/VIDEO CABLE RECORDER WITH INTEGRATED
OUT-OF-BAND DOCSIS/EuroDOCSIS CABLE MODEM



Cable

KEY CHARACTERISTICS:

- Compliant with open standards (DVB, DOCSIS, multiple conditional access, ..)
- Designed for OCAP/DSG support
- Built-in dual broadcast tuner/demodulator and 160 Gbyte hard-disk drive for digital audio/video recording
- Built-in DOCSIS data / data+voice cable modem

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

THOMSON
images & beyond



Voice

Video

Data

Access Platform & Gateways

DCI6000 - Triple-play Interactive Cable Video Recorder

Technical Specifications

DUAL 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(*) / 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

Standard	ISO13818-2 (MPEG-2)
Profile	MPEG-2 Main Profile @ Main Level
Supported bit rate	Variable, up to 15 Mbps
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) 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

TELEPHONY FEATURES

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

SYSTEM RESOURCES

Processor	RISC / 200 MHz
System RAM	From 24 Mbytes to 64 Mbytes
Video/OSD RAM	8 Mbytes
FLASH	From 8 / 16 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) hidden behind a door/flap

REMOTE CONTROL PROTOCOLS

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

(*) Can be supported as option

SOFTWARE

Middleware solutions	OpenTV™ Core 2.0 - THOMSON control task for OpenTV Core NDS™ MediaHighway™ DVB MHP(*) OCAP / DSG (*)
Access control	CONAX™(*) MEDIAGUARD™(*), NAGRAVISION™, 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 Management of favorite lists
Languages	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 teletext and subtitling decoding
EN 300 743 graphic 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)
Audio	Twin RCA Stereo audio outputs (left and right)
Digital Audio	SPDIF audio output (electrical or optical)
Ethernet data port	10/100 baseT on modem (data access) 10/100 baseT on host CPU (*)
USB (*)	USB 2.0 host
PSTN modem port (*)	RJ-11
Smart card reader	1 or 2 (*) slots, ISO 7816 1, 2 & 3
Telephony lines (*)	2 (RJ-11)

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 Max. 35 W
Dimensions 360x255x68 mm

ACCESSORIES

Remote control with batteries
RF lead
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 and 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 (*)

OTHER

160-320 Gbyte hard-disk drive
Hardware support for set-top box pairing/mating