LACEYS.TV

DCC - 200

User Manual

1 TABLE OF CONTENTS

2 INTRODUCTION

2.1 Welcome

Thank you for purchasing a Laceys.TV product.

This User Manual contains all the information required for the installation of the DCC-200. This User Manual also describes the advanced features and settings of the DCC-200.

2.2 DCC200

The DCC-200 is a high quality MPEG encoder that converts Composite Video and Stereo Audio to ASI

The DCC200 may be combined with an ASI processor from Laceys.tv for digital modulation

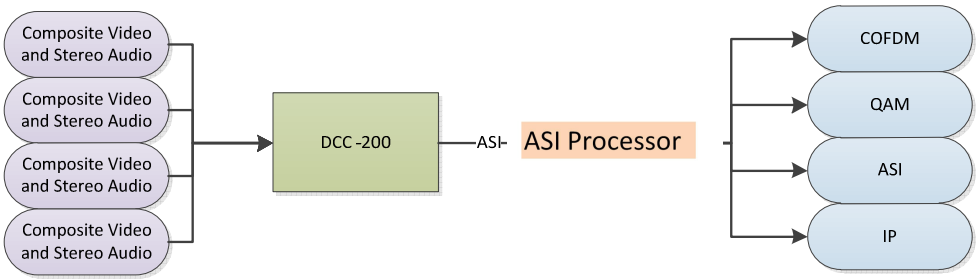

Figure 1 - The DCC-200 converts up to four Analogue A/V Sources into ASI

3 UNPACKING THE UNIT

3.1 Items in Box

The DCC-200 is delivered with all the necessary hardware and firmware for installation.

Please check the box for the following items:

Table 1 - List of Items with the DCC-200

Amount	Description
1	DCC – 200 MPEG-2 Encoder
12	BNC to RCA leads
2	BNC to BNC leads
1	Power Cable
1	User Manual (This Document)
1	Software CD (Contains the '4 for 1 Encoder Manager' software)

If any item is missing when unpacking, please contact Laceys.TV for support.

4 SETTINGS AND CONNECTIONS

The DCC-200 is Plug and Play and may be installed with no extra configuration

4.1 Connections

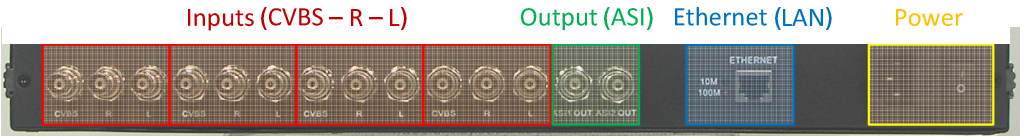

Figure 2 – Photo of back of DCC-200, Show the BNC, Ethernet, and Power Connectors (Including a Power Switch)

4.1.1 Input

Use the cables supplied to connect the A/V equipment to the DCC-200 BNC connectors.

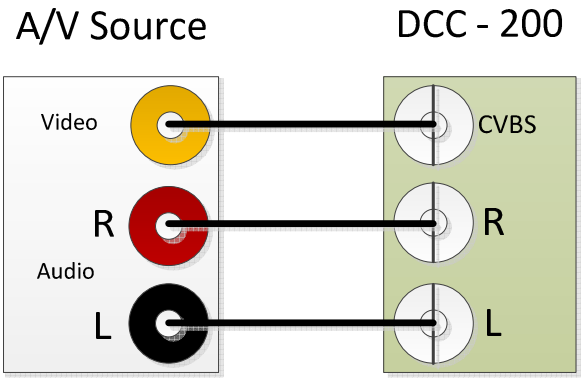

Figure 3 - Shows the basic connection of an A/V Source to the DCC-200, the cables supplied connect the Video and Stereo audio to the BNC connectors on the DCC-200

4.1.2 Output

The DCC-200 outputs the encoded MPEG-2 Streams via DVB-ASI.

The DCC-200 has two duplicate DVB-ASI outputs; therefore, two devices can use the one DCC-200 as a MPEG-2 source.

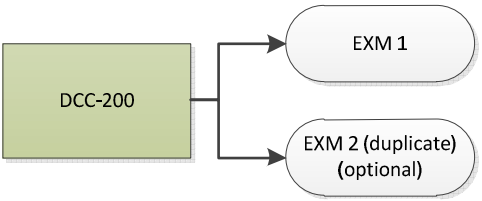

Figure 4 - There are two ASI output on the DCC-200, the second output is a duplicate of the first.

4.2 Control

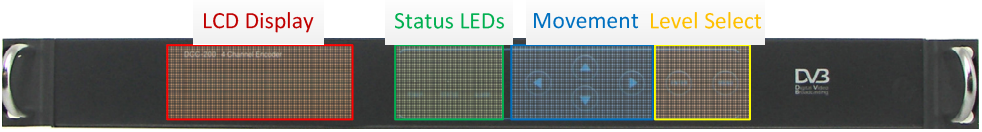

Figure 5 - Front Panel of the DCC-200, shows the Button Interface, including the ENTER and MENU buttons

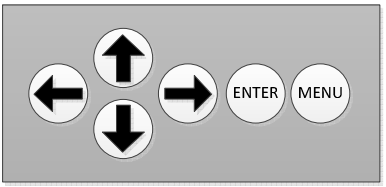

Figure 6 - The DCC-200 front panel interface button layout. Use the ENTER button to enter a submenu or change a value. Use the MENU button to go back.

4.2.1 Channel Naming

The Default labels of the channels are as follows:

Input	Provider Name	Program Name
1	Digital TV 1	Digital TV 1
2	Digital TV 2	Digital TV 2
3	Digital TV 3	Digital TV 3
4	Digital TV 4	Digital TV 4

See Chapter 7 for more information about how to change the Provider Name and the Program names.

5 INSTALLATION USING THE FRONT PANEL INTERFACE

The DCC-200 is a standard 1U rack mountable 19” device.

Laceys.TV recommends rack mounting for optimal operation

5.1 Navigation

The front panel interface on the DCC-200 uses a simple control scheme.

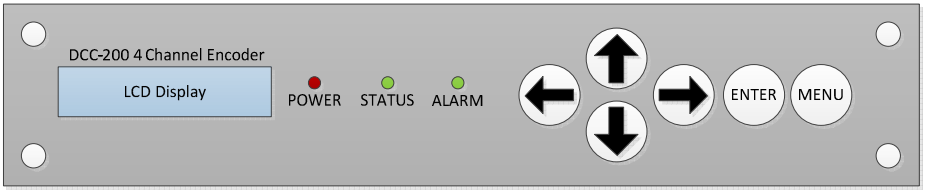

Figure 7 - Front Panel Layout

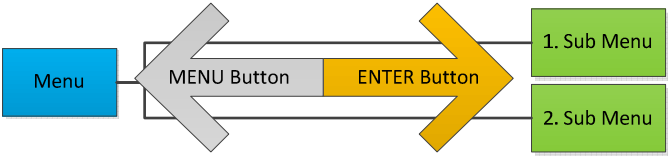

Figure 8 - Navigation for the DCC-200 Menu Tree

Button	Usage
ENTER	Enter Sub Menu, Edit Value, Save New Value
MENU	Leave Sub Menu, Cancel Editing
Right/Left	Choose Value
Up/Down	Choose Menu, Change Value

To lock/unlock the DCC-200 hold down both the MENU and ENTER button together for a few seconds.

5.2 Menu Structure

The following show the complete menu tree of the DCC-200 Front Panel Interface:

1. Channel: One, Two, Three, Four

Menu Number	Key Name	Default Value	Other Values

1.1. Video Settings

1	**Video Standard**	AUTO	PAL, NTSC
2	**Video Available**	YES	NO
3	**Resolution**	D1	HD1, SIF, 2/3D1, 3/4D1
4	**Brightness**	88 (0x58)	Value out of 255 (HEX)
5	**Contrast**	145 (0x91)	Value out of 255 (HEX)
6	**Saturation**	145 (0x91)	Value out of 255 (HEX)
7	**Hue**	0 (0x00)	Singed 8bit Value (HEX) -128 to 127

1.2. Audio Settings

1	**Audio Bitrate (kbit/s)**	384	256, 128
2	**Audio Sample Frequency (kHz)**	48	44.1, 32
3	**Audio Layer**	Layer 2	Layer 1
4	**Audio ES Mode**	STEREO	SINGLE CHANNEL, DUAL CHANNEL, JOINT STEREO

1.3. System Settings

1	**Channel Bitrate (kbit/s)**	6000	Value from 1000 to 15000
2	**Video PID**	(Different for each channel), leave defaults.	
3	**Audio PID**		
4	**PTM PID**		
5	**PCR PID**		

1.4. Muxer Select

1	**Channel Muxer**	Yes	No
-	**P_Name**	Digital TV (x)	Not Editable, View Only
-	**S_Name**	Digital TV (x)	

2. Network Settings

Default Value	Other Values / Notes

2.1. IP Address

192.168.0.136	Any IP address

2.2. Subnet Mask

255.255.255.0	Any Subnet Mask

2.3. Gateway

192.168.0.211	Any Gateway IP address

2.4. Physical Address

xx-xx-xx-xx-xx-xx	Unique and fixed for each unit

3. Together Settings

Default Value	Other Values / Notes

3.1. System Bitrate

xxx Mbit/s	Edit the Max output Bitrate for system. (if set too low the video will chop/corrupt)

3.2. Insert SDT

This option turns on/off function to change the channel names via the SNMP software.

Yes	No

3.3. Factory Configuration

Select ENTER to reset the DCC-200 to its Factory Defaults, otherwise select MENU to cancel.

ENTER	MENU

6 ADVANCED INSTALLATION

Once installed, the setup of the DCC-200 is dependent on the level of configuration required.

- For setups with multiple DCC-200 connected to a network (via a switch), Ethernet connection setup is required.
- For advanced installations including changing the Channel Names or the Service Provider Name, use the software supplied on the CD. See Chapter 7 for more information.

6.1 Ethernet Connection

The DCC-200 operates according to the 10BASE-T and 100BASE-TX Ethernet standards.

To connect to the DCC-200 via Ethernet LAN, (CAT-5e), simply use a crossover cable or a switch.

6.1.1 Default Network Settings

Key	Value
IP Address	192.168.0.136
Subnet Mask	255.255.255.0
Gateway	192.168.0.1
Physical Address	Unique to each unit

6.1.2 LAN Connection

To connect to the DCC-200 over a LAN; use the following procedure:

6.1.2.1 IP Settings on Windows

To edit the IP settings for Windows please first go into Network and Sharing Centre.

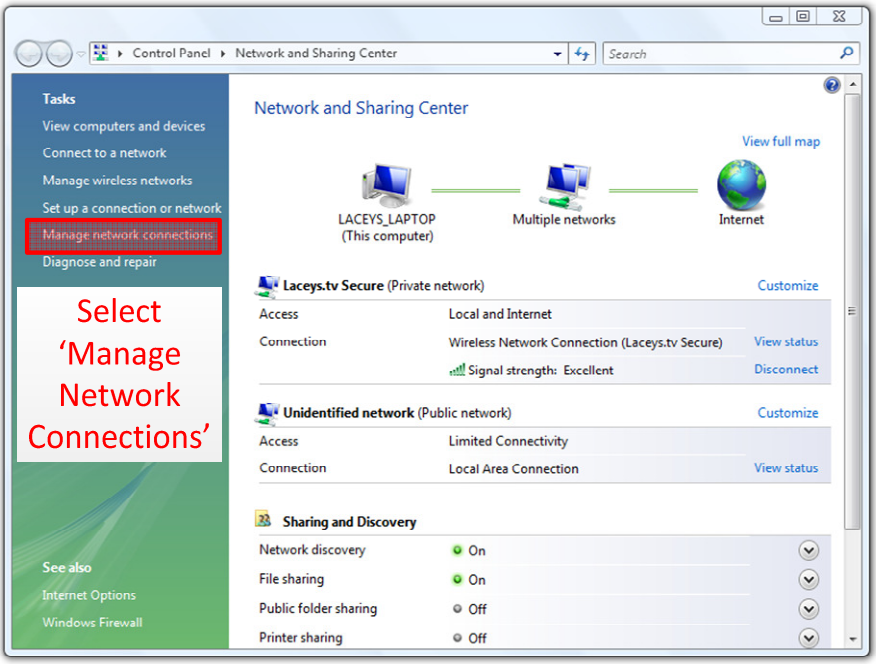

Figure 9 - Network and Sharing Centre, select 'Manage Network Connections'

Select the Ethernet device connected to the DCC-200.

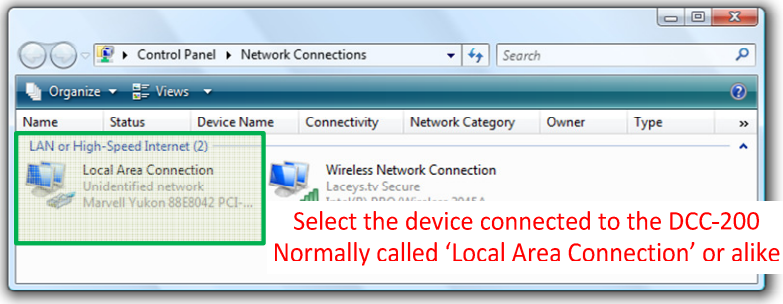

Figure 10 - Network Connections - Select the connection that is connected to the DCC-200

Load up the IP configuration

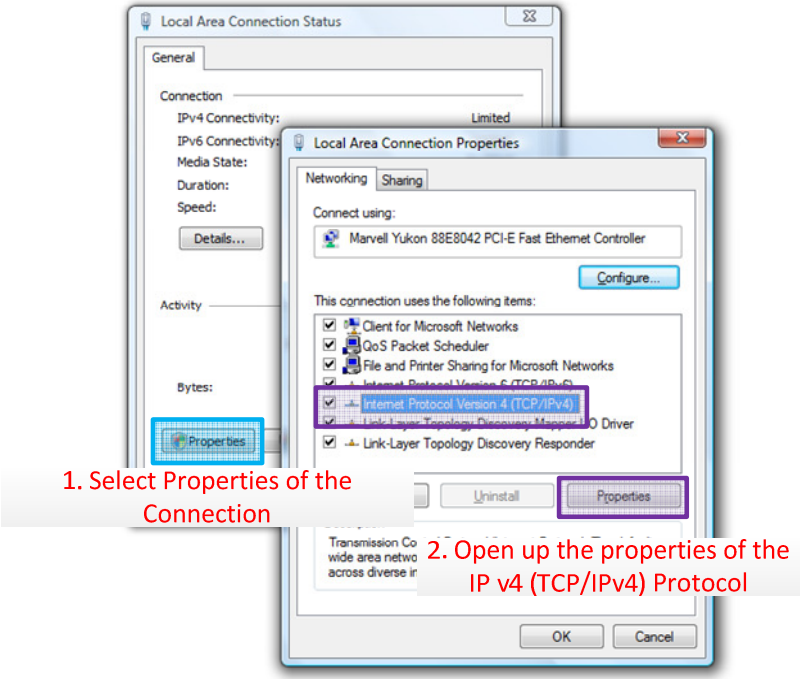

Figure 11 - Connection Status -> Connection Properties -> Protocol Properties

Edit the Protocol Settings:

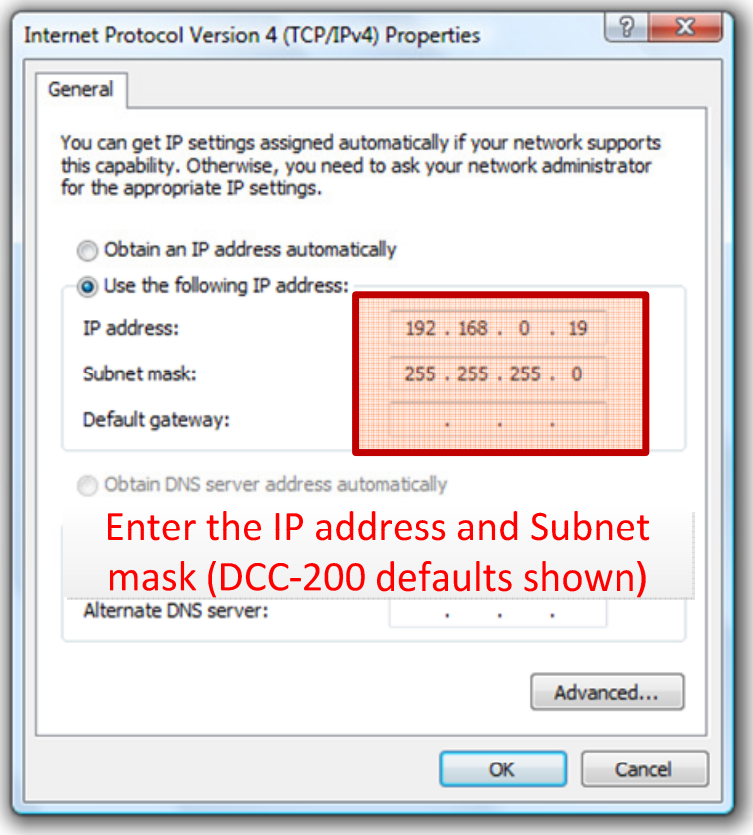

Figure 12 - IP settings - Settings shown connect to the DCC-200's default settings.

6.1.3 Selecting a IP and Subnet

The communicating computer only varies its address within the same subnet. For example, if the DCC-200 has the IP address 192.168.0.136 with the subnet 255.255.255.0 then the computer accessing the DCC-200 must have an IP address of 192.168.0.xxx, where xxx is any number between 1 and 255 except for 136.

Note: No other device on the same subnet can have the same IP address.

6.2 Control Software

The Control Software is supplied on CD or by E-Mail. The software runs on Windows XP, Windows Vista, or Windows 7.

No installation needed, simply run the executable from a directory on your computer.

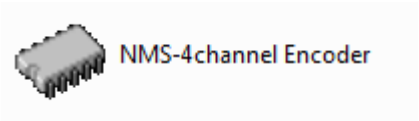

Figure 13 - Icon of the DCC-200 software

7 CONFIGURATION – SNMP

Please follow the steps in the setup section before attempting the configuration.

On loading “NMS-4channel Encoder,” a message will appear (Fig 6); this message appears when the software is not yet connected to a DCC-200. Please ignore this message, and click ok to continue.

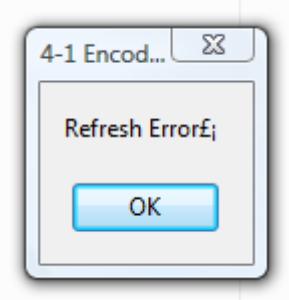

Figure 14 - Please Ignore and click ok.

Once loaded the default screen will load up. Most of the options are the same as in the front panel interface.

The tabs: CH1, CH2, CH3, CH4 are independently set. It is easy to set the Video, Audio, and System Parameters for each channel by changing the tab.

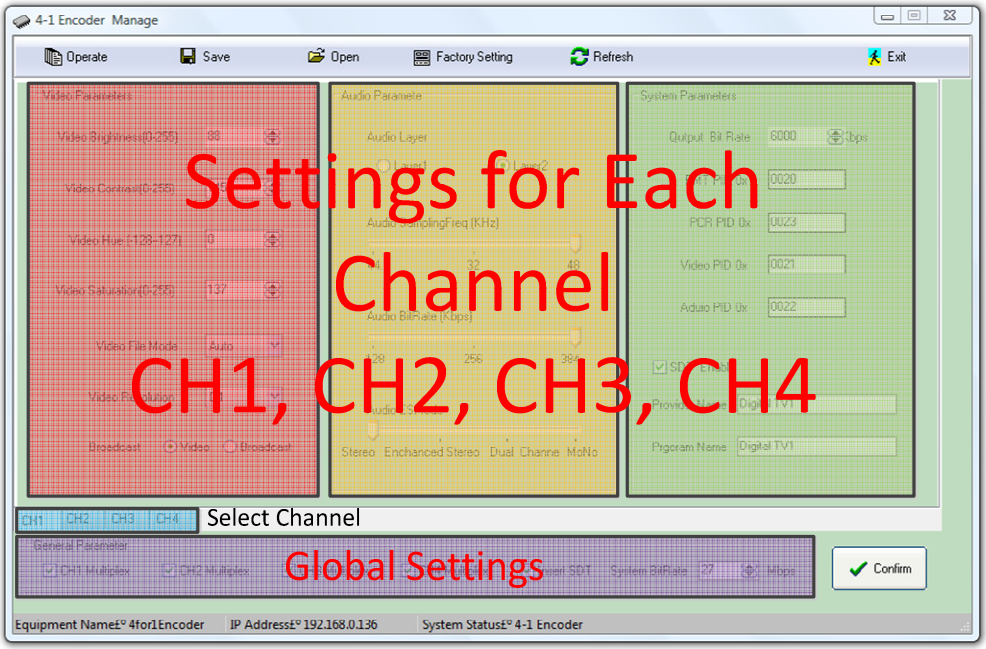

Figure 15 - Main Setting window for the DCC-200 SNMP configuration software on windows (NMS-4channel Encoder).

This window allows the configuration of every setting on the DCC-200 other than its IP address.

Please note, that on some computers the bottom status bar of the NMS-4channel Encoder software may not appear. This is typically because the window is too small. If this happens, please enlarge the window slightly to show the status bar.

7.1 Operate

To control the DCC-200, connect the PC to the DCC-200 using a crossover Ethernet cable. Open the Control Software and select the Operate function (top

left hand corner on the NMS-4channel Encoder main window) to choose or set the IP address to be used.

To view or change the IP address of the DCC-200 please use the front panel interface.)

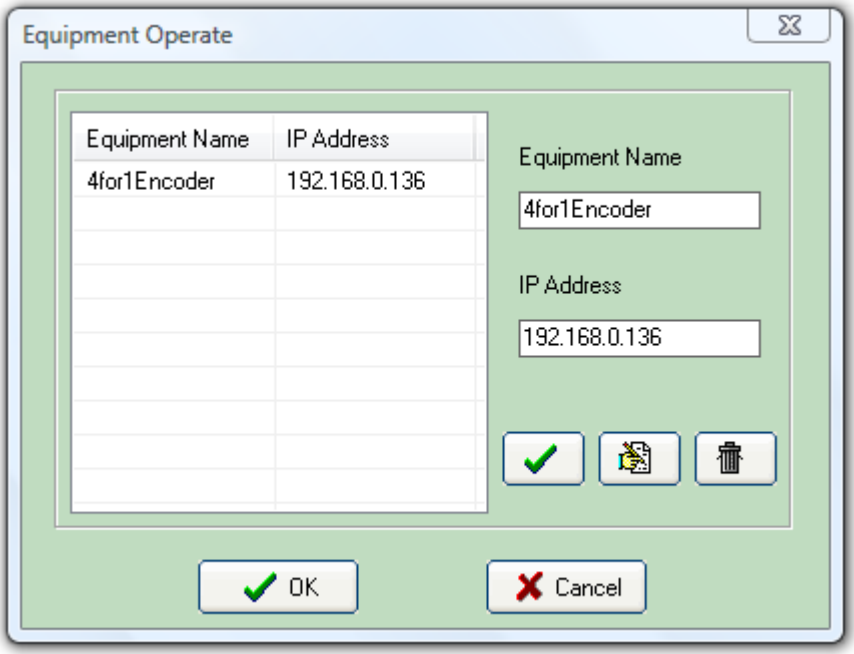

Figure 16 – To configure a DCC-200, select its IP address with this window.

Enter the IP address of the DCC-200 you wish to operate, click the smaller tick button to add it to the list. Select the IP you wish to use, and select ok.

7.2 Configuring the DCC-200

Once the correct DCC-200 is selected in the Operate menu, and click OK. Then return to the main settings menu and press 'Refresh' to load up the current configuration of the DCC-200. If an error occurs, then the DCC-200 is not connected to the PC. Please refer to Chapter 6 for more information.

When the settings are configured as needed, then click ‘Confirm’ to send the updated configuration to the DCC-200.

To check if the DCC-200 has been updated correctly, cycle the power of the unit, and then click ‘Refresh’ and check if the new configuration loads.

7.3 Saving and Loading Configuration States

The ‘NMS-4channel Encoder’ has the ability to save and load configuration states.

To Save:

1. Make the changes to the configurations and apply them to the DCC-200
2. Click the ‘Reload’ button to gain DCC-200 formatted values.
3. Click save, and name + save the file.

To Load:

1. Open ‘NMS-4channel Encoder’ and Operate the DCC-200.
2. Click ‘Open’ and select + open a previously saved configuration file.
3. Click ‘Confirm’ to apply the saved configuration to the connected DCC-200
4. Click ‘Reload’ to check all values were applied.

8 TECHNICAL SPECIFICATION

8.1 Video Input

Connectors	1x BNC (CVBS)
Standard	Composite Video (CVBS)

8.2 Audio Input

Connectors	1x BNC (Left) 1x BNC (Right)
Standard	RCA Audio (V_{Max}=755mV_{pp})
Modes	Dual Sound and Stereo Support

8.3 MPEG TS Output

Connectors	2x BNC (ASI) 1 ASI stream Duplicated
Standard	DVB-ASI output Complies with EN50083-9 ASI interface
Bitrate (Max.)	170Mbps
Bitrate (Effective / Channel)	3-15 Mbps
ASI Mode	BYTE
Packet size	188/204 byte
Return Loss	> 10dB
Impedance	75ohm

8.4 Video Channel Coding

Compression Standard	Compiles to: MPEG-1 MPEG-2 MP@ML(4:2:0)
Bitrate	3-15 Mbps
Resolution (MPEG)	Full D1, Half D1, SIF, QSIF
Resolution (PAL: Max.)	720x576
Resolution (NTSC: Max.)	720x480

8.5 Audio Channel Coding

Compression Codec	MPEG-1 Layer 1 MPEG-1 Layer 2
Audio Sampling Rate (kHz)	32, 44.1, 48
Audio Codec Bitrate (kbit/s)	128, 256, 384

8.6 Control

Front Panel Interface	LCD Display and Navigation Keys
SNMP	LAN Connection and Windows Software

8.7 Power

Voltage	AC 90 – 260V
Frequency	50 – 60 Hz
Max Load	30W

8.8 Environmental

Operational Temperature	-10 to 50°C
Storage Temperature	-10 to 70°C
Humidity	10% to 95%

9 CONTACT INFORMATION

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