



ACE™ - Transcoding

Application Note

ProStream 1000
Version 5.1 and Higher

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Conventions



NOTE: The Note symbol calls your attention to additional information that you will benefit from heeding. It may be used to call attention to an especially important piece of information you need, or it may provide additional information that applies in only some carefully delineated circumstances.



TIP: The Tip symbol calls your attention to parenthetical information that is not necessary for performing a given procedure, but which, if followed, might make the procedure or its subsequent steps easier, smoother, or more efficient.

In addition to these symbols, this manual uses the following text conventions:

- **Data Entry:** indicates text you enter at the keyboard.
- **User Interface:** indicates a button to click, a menu item to select, or a key or key sequence to press.
- **Screen Output:** shows console output or other text that is displayed to you on a computer screen.
- **Bold:** indicates the definition of a new term.
- *Italics:* used for emphasis, cross-references, and hyperlinked cross-references in online documents.

Revision History

Table 0-1: Revision History

Revision	Date	Description	By
A	September 2010	Creating document	Tova
B	December 2010	Updating to Transcoding Ver 2.2	Tova
C	May 2011	Updating to Transcoding Ver 3.0	Tova
D	July 2011	Updating to Transcoding Ver 3.1	Tova

Chapter 1

Transcoding

1.1 Overview

This version of ProStream 1000 allows you to transcode up to 20 HD or up to 60 SD services. The device transcodes services as follows:

- High Definition (HD) MPEG2/H.264 services to HD MPEG2/H.264 services
- Standard Definition (SD) MPEG2/H.264 services to SD MPEG2/H.264 services
- Downconversion HD MPEG2/H.264 services to SD MPEG2/H.264 services
- Microsoft Picture in Picture (PIP) - HD/SD MPEG2/H.264 services to PIP H.264 services. Microsoft PIP is a low resolution service that complies with Microsoft PIP specifications.

The following table lists the transcoding specifications. For PIP transcoding specifications, see [Table 1-3 on page 4](#):

Table 1-1: Transcoding Specifications

Specification	Explanation
Density	<ul style="list-style-type: none"> ■ Density - four cards per unit
Services	<ul style="list-style-type: none"> ■ HD to HD <ul style="list-style-type: none"> □ up to 5 services per transcoding card □ up to 20 services per unit ■ SD to SD <ul style="list-style-type: none"> □ up to 15 services per transcoding card □ up to 60 services per unit <p><i>Note:</i> Supports any combination of SD and HD services, where 1 HD service consumes the resources of 3 SD services. See Table 1-2 on page 4.</p> <ul style="list-style-type: none"> ■ HD to SD <ul style="list-style-type: none"> □ up to 5 services per transcoding card □ up to 20 services per unit ■ Microsoft PIP services <ul style="list-style-type: none"> □ HD to PIP <ul style="list-style-type: none"> Up to 5 main services + up to 5PIP services per transcoding card Up to 20 main services + up to 20PIP services per unit □ SD to PIP <ul style="list-style-type: none"> Up to 10 main services + up to 10PIP services per transcoding card Up to 40 main services + up to 40PIP services per unit
Video Format	Input - H.264/MPEG2 Output - H.264/MPEG2
Bit rate	Input - VBR/CBR Output - VBR/CBR. VBR is in a pool only. For HD, up to 3 services per pool for best performances. Note: Currently mixed pools (HD/SD, MPEG2/AVC) are not supported.

Table 1-1: Transcoding Specifications

Specification	Explanation
Resolution	<p>Horizontal Resolution:</p> <ul style="list-style-type: none"> ■ HD <ul style="list-style-type: none"> □ 720p - supports 1280x720, 960x720 Converts any to any of the supported types. □ 1080i - supports 1920x1080, 1440x1080, 1280x1080 Converts any to any of the supported types <p>Horizontal Resolution for both 50 and 60 Hz Vertical Resolution - no conversion, follow the input</p> <ul style="list-style-type: none"> ■ SD <ul style="list-style-type: none"> □ PAL 50Hz - supports 720/704/640/544/528/480/352 X 576 Converts any to any of the supported types □ NTSC 60Hz - supports 720/704/640/544/528/480/352 X480 Converts any to any of the supported types <p>For downconversion, see Table 1-4 on page 6.</p>
Frame Rate	50/60Hz All services in a single ProStream 1000 device are either 50 or 60Hz.
Audio PIDs	Passthrough with required delay
PIDs per Service	Up to 32 PIDs per transcoded service

Table 1-2: Possible Combinations of HD and SD Services per Transcoding Card

SD	HD/Downconversion (HD to SD)
15 services	None
12 services	1 service
9 services	2 services
6 services	3 services
3 services	4 services
None	5 services

Table 1-3: PIP Transcoding Specifications

Specification	Explanation
Services	See Table 1-1 on page 3 .

Table 1-3: PIP Transcoding Specifications

Specification	Explanation
PIP Service	<p>PIP service is always coupled with main service. PIP Service without Main service is not allowed:</p> <ul style="list-style-type: none"> ■ PIP Service <ul style="list-style-type: none"> □ points to its main service ■ Main Service <ul style="list-style-type: none"> □ up to one coupled PIP service. □ video format - input MPEG2/H.264 to H.264 □ output SD/HD, H.264 CBR/VBR ■ Main and PIP services <ul style="list-style-type: none"> □ have the same video input □ have different H.264 video output □ may outflow on a different TS out or on the same one □ may have different number of Audio/Data PIDs
Video Format	<ul style="list-style-type: none"> ■ Main Service <ul style="list-style-type: none"> □ Input - HD/SD □ Output - HD/SD ■ PIP Service <ul style="list-style-type: none"> □ Input - HD/SD □ Output - PIP
Stream Type	<ul style="list-style-type: none"> ■ Main Service <ul style="list-style-type: none"> □ Input - H.264/MPEG2 □ Output - H.264 ■ PIP Service <ul style="list-style-type: none"> □ Input - H.264/MPEG2 □ Output - H.264
Bit rate	<ul style="list-style-type: none"> ■ Main Service <ul style="list-style-type: none"> □ Input - CBR/VBR □ Output - CBR/VBR ■ PIP Service <ul style="list-style-type: none"> □ Input - CBR/VBR □ Output - CBR, for range see Table 1-13 on page 14.
Resolution	<p>Horizontal Resolution:</p> <ul style="list-style-type: none"> ■ Main Service HD <ul style="list-style-type: none"> □ See Table 1-1 on page 3 ■ Main Service SD <ul style="list-style-type: none"> □ See Table 1-1 on page 3 ■ HD PIP - PIP is coupled with an HD output service <ul style="list-style-type: none"> □ Supports 128x96 and 192x192 ■ SD PIP - PIP is coupled with an SD output service <ul style="list-style-type: none"> □ Supports 96x96 and 192x192

Table 1-3: PIP Transcoding Specifications

Specification	Explanation
Miscellaneous Parameters	<ul style="list-style-type: none"> ■ The PIP service follows the Main service configuration of the following parameters: <ul style="list-style-type: none"> □ GOP □ Aspect Ratio □ Mctf ■ The PIP service enforces the following configuration for the listed parameters: <ul style="list-style-type: none"> □ AFD - Discard □ Closed Captions - Discard □ Other data - Discard □ Adaptation Field Data - Disabled

1.2 Transcoding

You can transcode either of the following:

- an HD/SD service
- a PIP service

1.2.1 Transcoding an HD/SD Service

The following section instructs you on how to transcode an HD/SD service using the web client of the ProStream 1000 transcoder. The following table lists the required configuration to allow the transcoding of the video PID of a service:

Table 1-4: Transcoding Required Configuration

Feature	Input Stream	Output Stream	Explanation
Video Format	HD/SD	HD/SD	Supports: <ul style="list-style-type: none"> ■ High Definition (HD) ■ Standard Definition (SD) ■ Downconversion from HD to SD
Stream Type	H.264/MPEG2	H.264/MPEG2	Inputs H.264/MPEG2 and transcodes to H.264/MPEG2 In downconversion, output is MPEG2 only.

Table 1-4: Transcoding Required Configuration

Feature	Input Stream	Output Stream	Explanation
Resolution	N/A	<p>Horizontal Resolution:</p> <ul style="list-style-type: none"> ■ HD <ul style="list-style-type: none"> □ 720p - supports 1280x720, 960x720 <p>Converts any to any of the supported types.</p> <ul style="list-style-type: none"> □ 1080i - supports 1920x1080, 1440x1080, 1280x1080 <p>Converts any to any of the supported types</p> <p>Horizontal Resolution supports both 50 and 60Hz Vertical Resolution - no conversion, follow the input</p> <ul style="list-style-type: none"> ■ SD <ul style="list-style-type: none"> □ PAL 50Hz - supports 720/704/640/544/528/480/352 X 576 □ NTSC 60Hz - supports 720/704/640/544/528/480/352 X 480 <p>Converts any to any of the supported types</p>	<ul style="list-style-type: none"> ■ HR - if input is 720p, transcodes any 720p supported type to any 720p supported. If input is 1080i, transcodes any 1080i supported type to any 1080i supported type ■ If input resolution changes, and: <ul style="list-style-type: none"> □ Output resolution is Follow the Input, the output resolution changes accordingly without service interruption assuming that no gaps are created at the input. □ Output resolution is configured to a certain resolution, the output resolution remain as output configured resolution. ■ Downconversion - any supported input HD resolution to any supported SD output resolution. Default output resolution: 720p. ■ VR - Follow input only. Unsupported VR conversion. Note: Downconversion - Output Vertical resolution is automatically set according to the input frame rate: 480 - In 60hz 576 - In 50hz
Aspect Ratio	N/A	Follow input 16:9 4:3	Allows to match picture to type of screen, standard or wide screen. See Table 1-7 on page 9 .
Bit rate	N/A	CBR VBR	See Defining Output Bitrate of a Transcoded Service on page 14.
User Data	N/A	AFD Closed caption Other data	Allows to select which user data to output with the video PID In Downconversion, define Video Scaling.
GOP	N/A	GOP	Allows to define GOP related parameters
PCR PID	Any PID	Video PID	Input - Any PID may input the PCR PID. Output - Only video PID may transmit the PCR PID

The transcoding parameters are grouped in the Transcoding tab as explained below. For PCR configuration, see [Setting PCR PID](#) on page 69.

⇒ To transcode

1. Log into the device as explained in [Logging into the Device](#) on page 9.
2. In the **Output** section, select the required service to be transcoded. The stream is configured as transcoded in the Main tab of the service configuration.
3. Select the video PID.
4. Select the Transcoding tab.

Transcoding HD to HD/SD to SD

The screenshot shows the 'Transcoding' tab of a configuration interface. The 'Video Format' is set to 'SD to SD'. The 'Input Stream Type' and 'Output Stream Type' are both 'MPEG 2 Video (0x02)'. The 'Output Resolution' is 'Follow the input'. The 'Profile' is 'Main'. The 'Aspect Ratio' is 'Follow the input'. The 'Mctf' is 'Off'. The 'AF Data' is 'No'. The '3_2PullDown' is 'Follow the input'. The 'Bitrate (bps)' section has 'Mode' set to 'CBR' and 'Rate' set to '4000000'. The 'User Data' section has 'Closed Caption' set to 'Pass' and 'Video Scaling' set to 'Follow AFD (fallback to letter-box)'. The 'GOP' section has 'Mode' set to 'Follow the input', 'M frames' set to '3', and 'Open/Close' set to 'Follow the input', with 'N frames' set to '36'.

Downconversion - Transcoding HD to SD

The screenshot shows the 'Transcoding' tab of a configuration interface for downconversion. The 'Video Format' is 'HD to SD'. The 'Input Stream Type' is 'MPEG 2 Video (0x02)'. The 'Output Stream Type' is 'H264 Video (0x1B)'. The 'Output Resolution' is '720'. The 'Profile' is 'Main'. The 'Aspect Ratio' is '16:9'. The 'Mctf' is 'Off'. The 'AF Data' is 'No'. The '3_2PullDown' is 'Follow the input'. The 'Bitrate (bps)' section has 'Mode' set to 'CBR' and 'Rate' set to '4000000'. The 'User Data' section has 'Closed Caption' set to 'ATSC A/72' and 'Video Scaling' set to 'Follow AFD (fallback to letter-box)'. The 'GOP' section has 'Mode' set to 'Follow the input', 'M frames' set to '4', and 'Open/Close' set to 'Follow the input', with 'N frames' set to '36'.

In downconversion Aspect Ratio is 4:3 or 16:9

In downconversion, Video Scaling is enabled.

5. To select the input video format, open the Video Format list and select either of the following:
 - ❑ SD to SD
 - ❑ HD to HD
 - ❑ HD to SD
 - ❑ Any to PIP. See [Transcoding a PIP Service](#) on page 12.
6. To select the input stream type, open the Input Stream Type list and select the required type: H.264 or MPEG2.
7. To select the output stream type, open the Output Stream Type list and select the required type: H.264 or MPEG2. For downconversion, select MPEG only.

8. To define the output resolution, open the Output Resolution list and select one of the following:

Table 1-5: Output Resolution

Output Video Format	Output Resolution
N/A	Follow the input
HD	<ul style="list-style-type: none"> ■ 720p - supports 1280x720, 960x720 for both 50 and 60 HZ ■ 1080i - supports 1920x1080, 1440x1080, 1280x1080 for both 50 and 60Hz
SD	<ul style="list-style-type: none"> ■ PAL 50Hz - supports 720/704/640/544/528/480/352 X 576 ■ NTSC 60Hz - supports 720/704/640/544/528/480/352 X480

9. Open the Profile list and select one of the following according to table:

Table 1-6: Profile Configuration

	SD	HD
MPEG2	main	high
H.264	main/high	main/high

10. To configure the required aspect ratio, open the Aspect Ratio list and select one of the following options according to the video format as [Table 1-7](#) on page 9 explains:
- Follow the input - no changes to the aspect ratio.
 - 16:9 - (Letter Box) the international standard format of HDTV, non-HD digital television and analog wide screen television.
 - 4:3 - (Center Cut) select for standard TV.

Table 1-7: Aspect Ratios and Video Format

Video Format	Available Aspect Ratios Option	Explanation
HD to HD	Follow the Input	Follow the Input
SD to SD	Follow the Input 4:3 16:9	Follow the Input 4:3 16:9
HD to SD	4:3 16:9	4:3 16:9

11. Mctf (Motion-Compensated Temporal Filtering) - by default it is off. Mctf affects the video quality and reduces noises. If the service bit rate is low it is recommended to use strong Mctf. However, strong Mctf affects the sharpness of the picture.
To select the required Mctf, open the Mctf list and select the required level ranging from very weak to very strong.
12. In AF Data (Adaptation Field Data) you may add data about the stream. You cannot select the content of data, only whether to add this data.
To add data, open the AF Data list and select either Yes or No.
13. To define the required output bit rate of the service, focus on the Bitrate section and select the following:
 - ❑ Open the Mode list and select either CBR or VBR and configure according to the following table:



NOTE: A service with VBR, is out flowing in a pool. Currently mixed pools (HD/SD, MPEG2/AVC) are not supported. To create a pool, see [Creating a Pool](#) on page 15.

Transcoding tab, Bitrate section
when CBR is selected

Transcoding tab, Bitrate section
when VBR is selected

Table 1-8: CBR and VBR Configuration

CBR Configuration	VBR Configuration
<ul style="list-style-type: none"> ■ In Rate (bps), enter the required output bit rate. See Table 1-13 on page 14. 	<ol style="list-style-type: none"> 1. Open the Pool list and select the required pool. To create a pool, see Creating a Pool on page 15.
	<ol style="list-style-type: none"> 2. In Min Rate, enter the minimum rate of the video PID. <i>Note:</i>Total sum of minimum rates of streams in the pool should be smaller than pool rate. See Table 1-12, "Bitrate of a VBR Output Service," on page 14.
	<ol style="list-style-type: none"> 3. In Max Rate, enter the maximum rate of the video PID. See Table 1-12, "Bitrate of a VBR Output Service," on page 14.
	<ol style="list-style-type: none"> 4. Click Pool... to view pool information. See Understanding the Pool Details Page on page 17.

14. To manage user data at the output, focus on the User Data section and do the following:
 1. Open the Closed Caption list and select one of the following options.:

Closed Caption Option	Explanation
Pass	Passthrough any closed caption data present in the input stream

Closed Caption Option	Explanation
Discard	Remove any closed caption data present in the input stream
Various formats	Closed caption data outflows in various formats such as ATSC A/72, NADBS etc'. Closed caption data format depends on Video Format and the Stream Type.

2. Select **Discard Other**, to discard all user data except AFD and closed caption data.
3. Select **Discard AFD (Active Format Definition)**, to discard data related to the aspect ratio of the image.
4. **Video Scaling** applies to downconversion, HD to SD only. In case of HD to SD, open the **Video Scaling** list and select one of the following options:
 - Force letter-box
 - Force center-cut
 - Follow AFD (fallback to letter-box) - default value
 - Follow AFD (fallback to center-cut)
 - Squeeze to Anamorphic - only in case the aspect Ratio is 16:9
15. To configure GOP related parameters, focus on the **GOP** section.
16. To select the output GOP structure, open the **Mode** list and select one of the following options for the out:

Table 1-9: GOP Mode

Mode	Explanation
Follow the Input	Default. The GOP mode is as in the input
Fixed GOP	The number of frames for inserting the I frame and for inserting the reference frame (P frame) is fixed.
Variable	The number of frames for inserting the I frame changes. First it is as in the input but may change as required.
Capped	Defines the maximum number of frames for inserting the I frame. The number of frames should never exceed the value defined in N frames.
Fixed M	Defines a fixed number of frames for inserting a reference frame (P frame) no matter when the I frame is inserted.

To define the number of frames for inserting a P frame, in M Frames, select the required value. The following table lists the valid M frame values:

Table 1-10: Values of M Frame

Output Stream	M Valid Values	M Default Values
MPEG2 (HD/SD)	1,2,3	3
H.264 SD H.264 HD1080i,	1,2,4	4

Table 1-10: Values of M Frame

Output Stream	M Valid Values	M Default Values
H.264 HD 720p	1,2,4,8	8

17. To define the maximum number of frames in the outgoing GOP, in N frames, enter the maximum number of frames for inserting the I frame in a range of 6-90.



NOTE: N should be a multiple of M.

18. Open the Open/closed GOP list and select either of the following:

- Follow Input GOP - default option
- Closed GOP - frames from current GOP cannot reference I frames from previous GOP.
- Open GOP - frames from current GOP can reference I frames from a previous GOP.

1.2.2 Transcoding a PIP Service

The following section instructs you on how to transcode a service using the web client of the ProStream 1000 transcoder. The following table lists the required configuration to allow the transcoding of the video PID of a PIP service:

Table 1-11: Required Configuration for Transcoding a PIP Service

Parameter	Specification	Explanation
Enabling PIP	Enable PIP	PIP configuration is allowed on the device
Output Codec	H.264	
Output Resolution	<ul style="list-style-type: none"> ■ PIP SD 96 × 96 92 × 192 ■ PIP HD 128 × 96 192 × 192 	<ul style="list-style-type: none"> ■ PIP SD - PIP is coupled with an output SD service ■ PIP HD - PIP is coupled with an output HD service
Video Bitrate	100 to 550 Kbps CBR only	
Frame Rate	50/60Hz	

Service effecting operations for both the main and PIP coupled services:

- Adding/Removing PIP from the main Service
- Recovery from any error condition in main/PIP might result in service interruption to main/PIP.



NOTE: You cannot delete, disable and un-transcode a main service when a PIP service is coupled with it.

The transcoding parameters are grouped in the Transcoding tab as explained below. For PCR configuration, see [Setting PCR PID](#) on page 69.

⇒ To enable and transcode PIP services

1. Log into the device as explained in [Logging into the Device](#) on page 9.

- To enable PIP services on the device, select Tools > Video Procession and focus on the ACE PIP section.

Video Format	
Desired Video Format	NTSC
Video Format on Device	NTSC

SET-TOP-BOX Mode	
Mode	DVB

ACE Picture in Picture (PIP)	
PIP Enable	Enable

- Open the PIP Enable list and select Enable.
- Click Apply.
- In the Output section, select the required service to be transcoded. The stream is configured as transcoded in the Main tab of the service configuration.
- Select the video PID.
- Select the Transcoding tab.

Re-Muxing	Transcoding	Advanced	Descriptors
Video Format	Any to PIP	Bitrate (bps)	PIP
Input Stream Type	MPEG 2 Video (0x02)	Mode	Main Service
Output Stream Type	H264 Video (0x1B)	Rate	108SDH [S4 P1 ASI]
Output Resolution	192/192	User Data	
Profile	Main	Closed Caption	Discard Other <input checked="" type="checkbox"/>
Aspect Ratio	4:3	Video Scaling	Force letter box <input checked="" type="checkbox"/>
Mctf	Very Strong	GOP	
AF Data	No	Mode	Variable <input type="checkbox"/> I frames <input type="checkbox"/>
3_2PullDown	Follow the input	Open/Close	Open GOP <input type="checkbox"/> N frames <input type="checkbox"/>

- To select the video format, open the Video Format list and select Any to PIP
To define the output resolution, open the Output Resolution list and select one of the following:

PIP SD	PIP HD
96 × 96	128 × 96
92 × 192	192 × 192

- To define the required output bit rate of the service, focus on the Bitrate section and do the following:
 - In Rate, enter the required output bitrate in bps of the video PID. See [Table 1-13](#) on page 14
- To define the main service focus on the PIP section.
 - Open the Main Service list and select services that may be coupled with PIP services



NOTE: Main and PIP services have the same input. Any input problem, ensues an alarm on the main service.

1.2.3 Defining Output Bitrate of a Transcoded Service

In case the output service is a VBR service in a pool, configure it according to the following table:

Table 1-12: Bitrate of a VBR Output Service

VBR Output Service Type	Min Rate (Mbps)	Max Rate (Mbps)
SD MPEG2	0.5	8
HD MPEG2	2	18
SD H.264	0.5	8
HD H.264	1	18

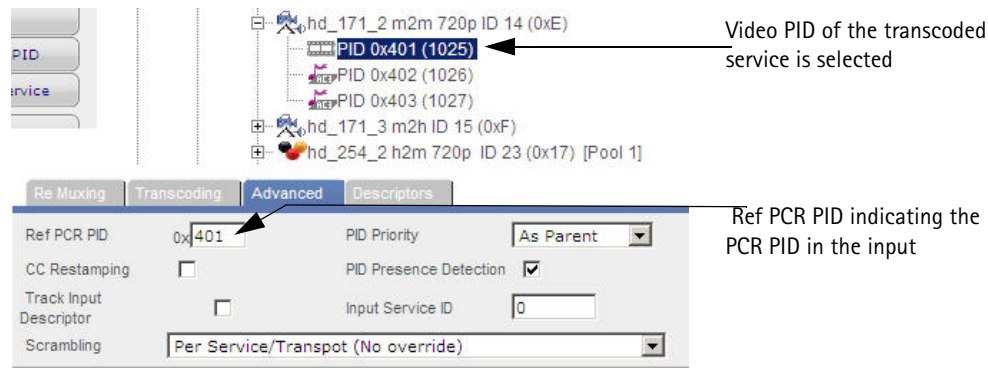
In case the output service is a CBR service, configure it according to the following table:

Table 1-13: Bitrate of a CBR Output Service

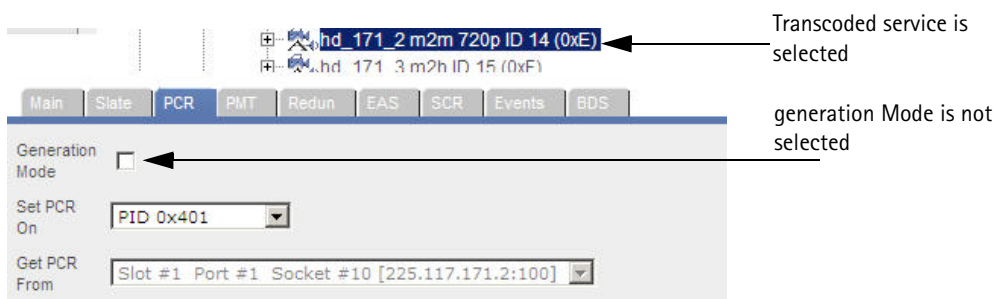
CBR Output Service Type	Min Rate (Mbps)	Max Rate (Mbps)
SD MPEG2	2	8
HD MPEG2	6	20
SD H.264	1.0	8
HD H.264	3	18
HD/SD PIP	0.1	0.55

1.2.4 PCR and Transcoding

- The PCR PID should outflow over the video PID. To configure it, see [Setting PCR PID](#) on page 69.
- Reference PCR value is indicated for all PIDs of the service. (Select any service PID > Advanced tab.) Reference PCR indicates the PCR PID in the input. If, the input PCR PID changes, you need to manually change the Reference PCR PID for every PID of the transcoded service. Select the PID > Advanced tab.





- When transcoding a service, PCR Generation Mode is not selected in Service > PCR table, Generation Mode:.



1.2.4.1 Transcoding Conventions

The following table lists the conventions for a transcoding service with CBR and VBR bitrate:

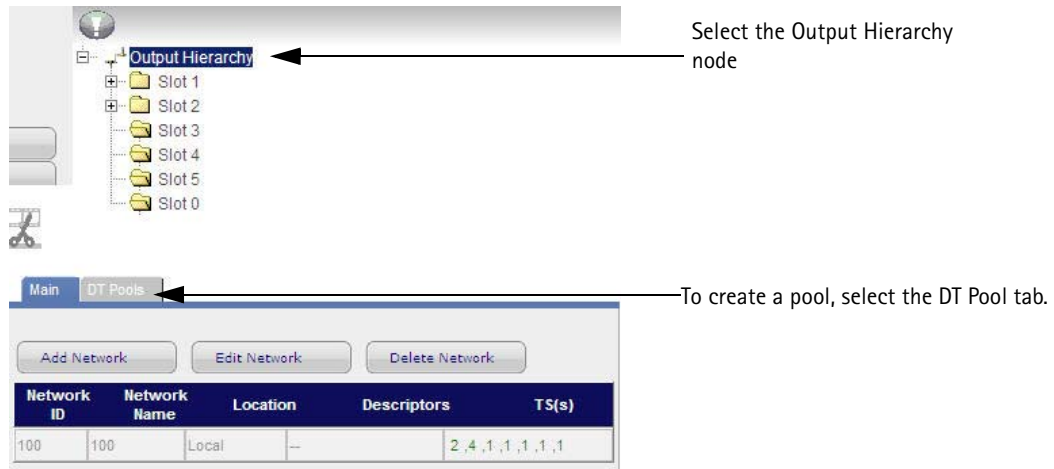
Table 1-14: Transcoding Conventions

Convention	Explanation
	Transcoded service
	Transcoded service in a pool

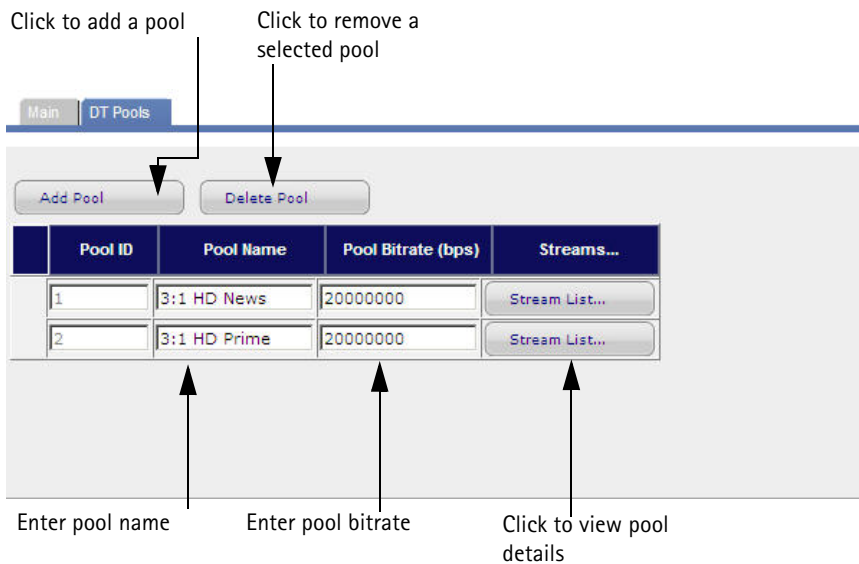
1.2.5 Creating a Pool

- Log into the device as explained in [Logging into the Device](#) on page 9.

2. In the Output section, select Output Hierarchy.



3. Select the DT Pool tab.



4. To add a pool, click Add Pool.

5. Define pool parameters as follows:

- ❑ Pool ID - Read only. A sequential order of the listed pool.
- ❑ Pool Name - Enter a name for the pool.
- ❑ Pool Bitrate - The default pool rate is 20bps. Enter the required pool rate in bps.



NOTE: The bitrate of the pool should consider the transport bitrate and allow enough bitrate for additional PIDs that are included in the TS.

6. To view general pool information, click Stream List.

Pool Details							
Pool ID:	1						
Pool Name:	HD_pool						
Pool Bitrate (bps):	25000000						
Stream List							
#	PID	Service Name	TS Out (Slot : Port : Socket)	Video Format	Xcode Path	MinRate	MaxRate
1	0x211	hd_254_2_h2m 720p v	4 : 1 : --	SD	M-H	5000000	5000000
2	0x411	hd_171_2_m2m 720 v	4 : 1 : --	HD	M-M	4000000	18000000
3	0x111	hd_254_1_h2m v	4 : 1 : --	HD	H-M	4000000	18000000

1.2.5.1 Understanding the Pool Details Page

The Pool Detail page provides the following information:

- ❑ Pool ID - the ID of the pool.
- ❑ Pool Name - the configured name of the pool.
- ❑ Pool Bitrate - the configured bitrate of the pool.
- ❑ Stream list - a table that lists and shows the following parameters of pool streams:


Table 1-15: Parameters of Streams in a Pool

Parameter	Explanation
#	Sequential number of the stream
PID	The PID
Service Name	The name of the service that carries the video PID.
TS Out	Details of the output of the TS as follows: Slot: Port: Socket
Video Format	Input - HD/SD Output - HD/SD
Xcode Path	Transcoding Type: H-M - input H.264 to MPEG2 output M-M - input MPEG2 to MPEG2 output H-H - input H.264 to H.264 output
Min. Rate	The minimum rate of the stream
Max. Rate	The maximum rate of the stream

1.2.5.2 Removing a Pool

1. Select Output Hierarchy > DT Pool tab.

2. Select the required pool to be removed by clicking the left most column.



The screenshot shows the 'DT Pools' interface. At the top, there are tabs for 'Main' and 'DT Pools'. Below the tabs are two buttons: 'Add Pool' and 'Delete Pool'. The main area contains a table with the following columns: 'Pool ID', 'Pool Name', 'Pool Bitrate (bps)', and 'Streams...'. There are two rows of data:

Pool ID	Pool Name	Pool Bitrate (bps)	Streams...
1	3:1 HD News	20000000	Stream List...
2	3:1 HD Prime	20000000	Stream List...

An arrow points to the leftmost column of the second row (Pool ID 2). To the right of the table, the text reads: 'To select a pool, click here'.

The selected pool record has a darker shade.



The screenshot shows the 'DT Pools' interface with the same table as above. The second row (Pool ID 2) is now highlighted with a darker background. An arrow points to this row from the right, with the text 'Selected pool'.



NOTE: You can select multi pools by clicking the left most column while pressing the <Ctrl> key.

3. Click Delete Pool to delete the selected pool.