

*iCue™ is your own inhouse TV station for streaming media with an integrated video archive.*

*The iCue™ Streaming System allows the digital distribution, management and recording of TV channels and camera signals: Any video at any time on any workplace.*

*The iCue™ Player allows PC users to search, edit and playback videos and channels that are offered by the iCue™ Server.*

Any user whose PC is connected to the network can view live TV or camera signals by means of the iCue™ Player and additionally gain access to the video archive via on-demand. Videos can be viewed quickly, easily and directly on the user's desktop.

The iCue™ Player, a special PC player, is able to receive available streams and to replay them in high-resolution DVD and DVB quality.

iCue™ is used in the following sectors for professional streaming and IPTV in LAN and intranet networks:

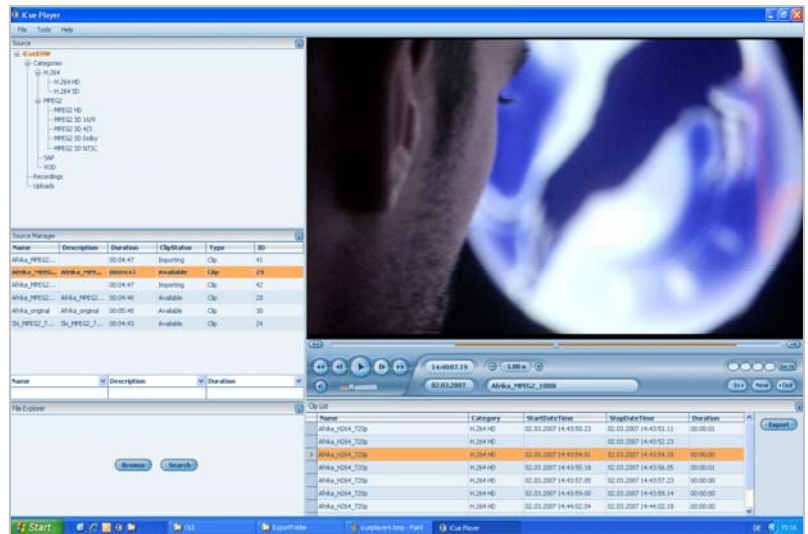
- Digital Business TV
- Medical and Campus TV: On-Demand training
- Editor TV and Journalist TV
- Documentation and training – Tele-medicine
- Video Monitoring: Control rooms and crisis centers
- Stadium and Event TV
- Compliance recording server
- Monitoring: Loop Recording

### In-house streaming

Network-based transmission of video signals. Video-over-IP is used as technology and the distribution method for video and audio signals. All signals are digitally transmitted over the standard data network. The network is used as a virtual AV-router: making additional cabling, amplification and video switching unnecessary.

### Professional quality

The end-to-end iCue™ system with the integrated all digital signal processing enables professional DVD and DVB output. The open video standards MPEG-2 and MPEG-4/H.264 are supported in SD/HD resolutions by all four iCue™ Server models.



The iCue™ Player is part of the complete, end-to-end iCue™ streaming system. All important functions for replaying videos as well as the basic control of the server are directly integrated in the iCue™ Player.

- Auto-login for quick and automatic access
- Direct viewing: search and instant playback of videos
- Quick positioning by means of timeline and go-to function; without lengthy fast-forwarding and rewinding; without change of media
- Automatic 4:3 and 16:9 video recognition
- NTSC and PAL support
- Replay of live and linear NVOD channels as well as on-demand videos
- Replay of MPEG-2 SD/HD and MPEG-4 AVC H.264 SD/HD
- Single-frame streaming for detailed analysis: single video frames of the recordings can be selected for viewing (Frame FF/REW)
- Low-delay software decoder and dynamic stream buffering, low delay, latency under 500ms
- Optional: trimming/editing is possible directly in the player with plugin: video recordings can be shortened and important sequences can be extracted from longer (loop) recordings
- Optional: export/transcoding of videos as MPEG-2 SD/HD TS and Windows® WMV

### Further IPTV building blocks of the iCue™ streaming system



**iCue™ Server**—Recording and storing TV or camera signals, upload of video files, managing and indexing video content (metadata), provision of on-demand videos and publishing, broadcasting of own streaming channels as well as integrated management of users and rights.



**iCueTV**—Graphic interface for TV users with set top boxes. Use of the iCue™ system on plasmas, LCD TV's in seminar or meeting rooms and for projectors in large auditoriums and lecture halls.

## iCue™ Player 4.0—Technical Data

iCue™ Player is a PC stream player for Windows®. It provides a graphic user interface for searching, indexing and displaying video content. The player enables playback of live streams from the network and of videos that are stored on the iCue™ Server. The iCue™ Player includes advanced software decoders for displaying various streaming formats at low latency delay (<500ms).

Apart from replaying videos, the iCue™ Player enables the cutting and editing (hard cuts, GOP-precise) as well as the exporting of stored video sequences by means of the plugin Trim&Export. Important or special video sequences can be extracted through the plugin and provided to other video applications or workflows (e.g. DVD/CD authoring). During export, videos can be transcoded to the low bandwidth Windows® WMV/ASF format—for further distribution and sharing of video clips via e-mail or FTP.

The basic functionality of the iCue™ Server can be controlled directly from the iCue™ Player. Recordings of TV programmes and camera signals can be started. Recorded video clips can be renamed and indexed and defined by metadata. Clips can be sorted in different categories and assigned with multiple attributes. Linear video broadcasts in terms of streaming playout from the iCue™ Server can be remote controlled from the iCue™ Player.

|                                      |   |
|--------------------------------------|---|
| <b>Streaming formats</b>             | MPEG-2 and MPEG-4/Part10: Open standard compatibility<br>Support of MPEG-2 SD/HD and MPEG-4 AVC H.264 SD/HD based on transport streams<br>MPEG-2 SD: ML@MP, 4:2:0. ISO/IEC 13818-1 transport, ISO/IEC 13818-2/-3<br>MPEG-2 SD: elementary A/V streams, MPEG-2 HD: transport streams<br>MPEG-4 AVC H.264 SD and HD: transport streams  |
| <b>Video formats</b>                 | NTSC and PAL, automatic 4:3 and 16:9 recognition and playback (WSS recognition)   |
| <b>Video resolutions</b>             | Standard resolutions: Full D1 (720h x 480/576v), Half D1 (384h x 480/576v), CIF/SIF (384h x 240/288v)<br>iCue™ Player layout and video window are scalable, full screen video is supported  |
| <b>Video bit rates</b>               | 500kbit/s—20000kbit/s (20Mbit/s)<br>FF/REW streaming (without additional streaming files), frame-precise FF/REW streaming and slow-motion streaming<br>Replay of locally stored MPEG video files  |
| <b>MPEG-2 audio decoding</b>         | MPEG-1, layer 2, stereo audio display, volume and mute control in the player  |
| <b>Protocols</b>                     | TCP/IP, UDP/IP, IGMPv2, SAPv1, multicast and unicast streaming is completely supported in connection with the iCue™ Server 4.0<br>Support for multi-network cards, LDAP/ADS connection  |
| <b>Control of iCue™ Server</b>       | Support of several iCue™ Server systems, with password or auto-login, possible LDAP/ADS connection<br>file upload and export, video administration: recording/clip/attribute/broadcast management   |
| <b>System requirements</b>           |   |
| <b>Operating system</b>              | Microsoft Windows® XP Professional SP2 with .NET framework v2.0 or higher, XP Themes activated  |
| <b>Hardware</b>                      | <b>Recommended minimum requirements:</b><br>Pentium 4, 3.0 GHz, 2 MB, Hyperthreading, 512 MB RAM for MPEG-2 SD/HD and MPEG-4 AVC H.264 SD/HD replay<br>Minimum requirement for MPEG-4 AVC H.264 HD: Core 2 Dual Processor<br>16MB free disk space, additional storage space for exporting video required:<br>Example: exporting a video stream at 5Mbit/s consumes approx. 2GB disk space for one hour, and approx. 50GB for 24 hours<br>Current benchmark tests on request |
| <b>Network</b>                       | Ethernet standard: 100 Base-TX (data rate 100 Mbit/s), Multicast-compatible network, support of IGMPv2 or higher  |
| <b>Firewall</b>                      | Firewalls must not block the iCue™ Player application   |
| <b>Recommended streaming sources</b> | ENC-100 series: MPEG-2 SD real-time streaming encoder<br>ENC-200 series: MPEG-4 AVC H.264 SD real-time streaming encoder (from Q3/07)<br>DVB-100 series: video gateways, DVB/IP converter with integrated DVB-C/S/T receiver<br>iCue™ Streaming Server 4.0: video on-demand (VOD) and linear channels (NVOD, near video on-demand)  |

For the iCue™ Player (item name: ICUE-PLAYER) the separate plugin Trim&Export is available for cutting/trimming, exporting and transcoding video sequences:

| Name             | Category | StartDateTime          | StopDateTime           | Duration |
|------------------|----------|------------------------|------------------------|----------|
| Afrika_H264_720p | H.264 HD | 02.03.2007 14:43:50.23 | 02.03.2007 14:43:51.11 | 00:00:01 |
| Afrika_H264_720p | H.264 HD | 02.03.2007 14:43:52.23 | 02.03.2007 14:43:52.23 | 00:00:00 |
| Afrika_H264_720p | H.264 HD | 02.03.2007 14:43:54.01 | 02.03.2007 14:43:54.18 | 00:00:00 |

ICUE-PLAYER-PUTX-01  
Trim&Export Plugin for iCue™ Player

