datavideo

HDBT™

HS-1650T
HDBaseT Portable
Tracking and Streaming Studio

www.datavideo.com

HS-1650T

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Tracking and Streaming Studio

Datavideo HS-1650T is a professional 4-channel HDBaseT all-in-one production studio, supporting full HD 1080p resolution. Ideal for conferences, education, and live events, it integrates video switching, streaming, recording, camera control, and audio mixing into a compact, portable design.

Equipped with a 14-inch touch screen, it offers an intuitive user interface for real-time operation, including smart camera tracking, auto-framing, and PTZ control. Thanks to HDBaseT technology, a single Cat-6A Ethernet cable enables long-distance (up to 100 meters) transmission of video, power, control, and tally signals from cameras.

For audio integration, HS-1650T includes dual XLR and RCA audio inputs, supporting flexible audio mixing. Three HDMI outputs enable simultaneous streaming and recording with various effects like Picture-in-Picture (PIP), wipe, and fade transitions.

The built-in 17.3-inch display offers 1920x1080 resolution for clear multi-view monitoring.

With a future-proof design, new functions can be added through software updates, ensuring continuous flexibility and innovation without requiring hardware replacement.

Six Key Integrated Functions in a Portable Case

Circular diagram (HS-1650T):
- 01 Recording
- Camera control
- 06 Multi-channel encoding for live streaming
- 05 Video monitoring
- 04
- 03 Video Switching
- 02 Audio mixing

01 Recording

SD CARD SLOT

MOBILE

HS-1650
HDBaseT
TRACKING
STREAMING

BITRATE VERTICAL RECORD STREAM

H
M
L

02 Audio Mixing

06 Camera Control and Intelligent Tracking Settings

Touchscreen interface

| AT Setup | Camera | PIP | Luma | Audio | ≡ |

Select Camera : CAM 1   CAM 2   CAM 3

Select Tracking : ON CAM   OFF CAM   CAM

Figure Customized Size : 141   Setting

AT Speed

Select Subject :
← Select →

Fast
Mid
Slow

Placement :
Left   Center   Right

1/2

USER
USER 1   USER 2

BLK

CAMERA   POSITION
CAM 1
Full   Half Body   Close Up   Customized

CAM 2
1   2   3   4

CAM 3
1   2   3   4
1   2   3   4

STORE   BLK

Innovative User Experience: 14-Inch Touchscreen

With its 14-inch touchscreen, the HS-1650T redefines control. Effortlessly switch scenes, adjust PTZ cameras, and frame your subject with AI tracking—no buttons, no limits.

Top Panel

04 **Video monitoring**

05 **Multi-channel encoding for live streaming**

03 **Video switching**

Portable briefcase design encompassing 6 major features

01 Recording

Professional-Grade H.264 Recording

The HS-1650T features built-in professional-grade recording. Simply insert an SD card to start recording video in H.264 format. Users can adjust recording parameters such as resolution, frame rate, and video bitrate to suit different production needs.

02 Audio Mixing

Built-in Audio Mixer

HS-1650T includes a built-in audio mixer that allows real-time balancing and mixing of up to four audio input channels while managing video production. It streamlines your workflow by handling both audio and video processing in one integrated system.

03 Switching

Efficient 4-In / 4-Out Video Integration

HS-1650T offers four video inputs (3 x HDBaseT and 1 x HDMI) and four video outputs (2 x HDMI, 1 x HDBaseT, and 1 x HDMI Loop Out), making it ideal for building a clean and efficient video setup in small to medium-sized venues. This streamlined configuration helps you deliver professional, high-quality live productions with ease.
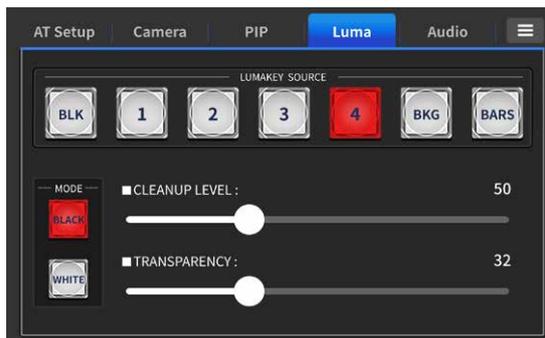
Intuitive Image Key

The Image Key can capture camera views and set them as shortcuts. Up to four framing positions can be stored, and with a single click, the view can be instantly restored. What you see is what you get, making operation intuitive and straightforward.

Picture-in-Picture (PIP) Function

HS-1650T supports flexible PIP display, allowing users to assign any source as a sub-window. The size, position, and border of the sub-window can be freely adjusted, enhancing your video layout with layered visual storytelling.

Built-in Subtitle and Logo Overlay

HS-1650T features a built-in subtitle and logo overlay function. By connecting an external laptop, users can easily input and display custom text captions and logo graphics during live production.
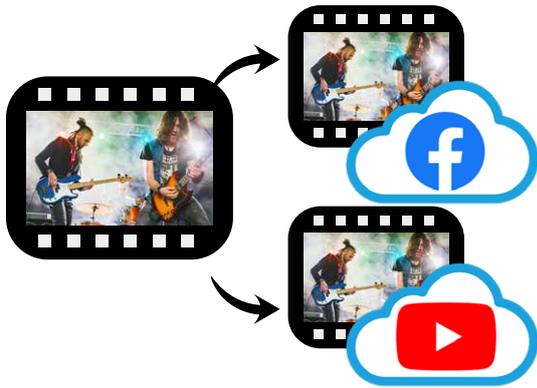
04   Monitoring

17.3-Inch Full HD Monitor

HS-1650T features a built-in 17.3-inch TFT LED display with a resolution of 1920 x 1080 pixels, providing clear and detailed visuals for users to operate all system functions with ease and precision.

HDMI Loop-Out for External Monitoring

HS-1650T includes an HDMI loop-out port, allowing the input signal to be passed through to an external display. This makes it easy for operators to monitor content from a connected laptop or source device, streamlining workflow and improving operational efficiency.

Powerful Built-in Dual Streaming Encoder

HS-1650T features a built-in dual-platform streaming encoder, enabling simultaneous live streaming to two different platforms—such as YouTube, or Facebook—while video production is in progress. This allows your content to reach a wider audience effortlessly and in real time.

Dual-Platform Live Streaming

HS-1650T supports simultaneous live streaming to any two mainstream platforms, such as Facebook, YouTube, or other major services. You can easily select and stream to both platforms at the same time, expanding your audience reach effortlessly.

SRT Alliance Certified — SRT READY

Support for Multiple Streaming Protocols

HS-1650T supports a wide range of streaming protocols, including RTSP, RTMP, RTMPS, and SRT, ensuring seamless compatibility with all major streaming platforms. In particular, SRT offers three key advantages—security, reliability, and low latency—making it ideal for delivering high-quality live streams even in unstable network conditions.

Vertical Video Streaming Support

Statistics show that over 50% of viewers watch live streams on their mobile phones, and 94% of them prefer vertical video. HS-1650T supports vertical streaming with an easy setup process, allowing creators to deliver mobile-optimized content in a portrait format with just a few clicks.

Advanced PTZ Control

HS-1650T features a built-in PTZ camera control system that supports simultaneous operation of up to three Datavideo PTZ cameras. Users can directly manage functions such as zoom, pan, tilt, and video format settings.

Pan | Tilt | Zoom
IRIS | Focus | White Balance
CONTROL

Joystick-Based PTZ Control
The joystick lets you easily pan, tilt, and zoom PTZ cameras, with adjustable movement speed for smooth and precise control.

Touchscreen Camera Parameter Control
Use the touchscreen to adjust key camera settings including white balance, focus, shutter, and iris—all with a tap.

4 memory presets + 4 memory presets + 4 memory presets

Store Up to 12 Camera Presets

Control up to 3 Datavideo PTZ cameras, with 4 preset positions per camera—totaling 12 memory presets. Instantly recall any shot with a single button press, no manual adjustment or camera operator needed.

A Complete Basic **HDBaseT** System Setup

The HDBaseT technology transmits uncompressed high resolution video, audio, Ethernet and control signals and power on one standard Ethernet Cat 6/6a cable. Datavideo's HS-1650T provides a maximum video transmission distance of 100 meters in HD mode using the HDBaseT technology, which makes system setup easy and reduces the cable cost.

HD HDMI

Tally Light

POE (Power over Ethernet)

Remote Control

DVIP/VISCA Control Protocol

HDBaseT:
5 signals in 1 ethernet cable

HDBaseT In

Transmits up to
100 meters

A proprietary HDBaseT OUT for connecting a projector

An additional HDBaseT OUT allows connection of a projector or monitor using the HDBaseT technology and provides a maximum video transmission distance of 100 meters. This completes the basic HDBaseT live production system.

Custom Neutrik Connector

Datavideo has adopted the Neutrik's HDBaseT connector allowing you to secure the connection with a locking mechanism. The reliable lockable connector design makes sure the connection is always secure and gives you a pleasant system setup experience.

Neutrik® connectors for HDBaseT

HD HDMI	Provides a maximum video transmission distance of 100 meters in HD mode without being constrained by the cost, maintainability and length of HDMI cables, giving you the ability to set up a production system that extends up to 100 meters.
Tally Light	You can send the tally signals from Datavideo's HS-1650T to HDBaseT cameras over HDBaseT cables, giving you easier control of cameras.
POE	The HDBaseT technology provides connected devices with 60W of power while delivering other signals without extra external power connection. This makes cabling easier, reduces manpower and eliminates the risks that traditional cables can bring.
Remote Control & DVIP/VISCA Control Protocol	Control signals are delivered to cameras at remote locations over HDBaseT for control of focus, iris, white balance, etc. Furthermore, DVIP, a control protocol designed and developed by Datavideo, allows you to build a system control panel for controlling all devices of the production system. See DVIP user manual for more details.

HDBaseT Out

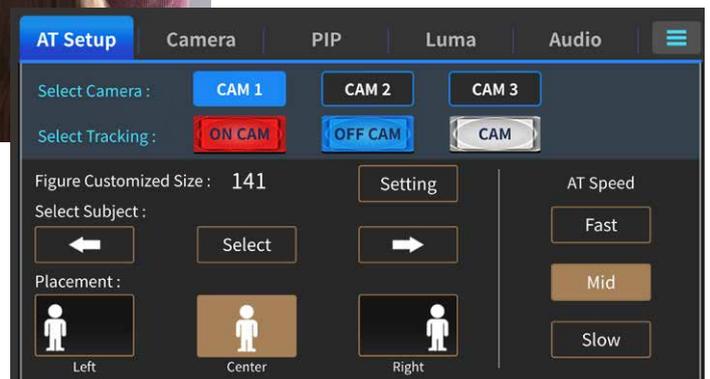Transmits up to
60 meters

Transmits up to
60 meters

RJ-45
connectors
for Projectors

Mastering the Scene: AI Smart Tracking

Quick Start for AI Camera Intelligent Tracking

The HS-1650T allows remote control of the camera and multiple intelligent tracking camera settings directly from the control panel. Datavideo has several other devices that can quickly enable/disable the camera's AI intelligent tracking function, offering an integrated device with both switcher and camera control functions.

Smart PTZ Speed Adaptation

The integrated PID algorithm detects the movement speed of the identified object and automatically adjusts the camera's corresponding pan, tilt, and zoom speeds. This ensures that the lens movement is smooth, avoiding common camera lens movement problems such as jerky movements or unexpected halts.
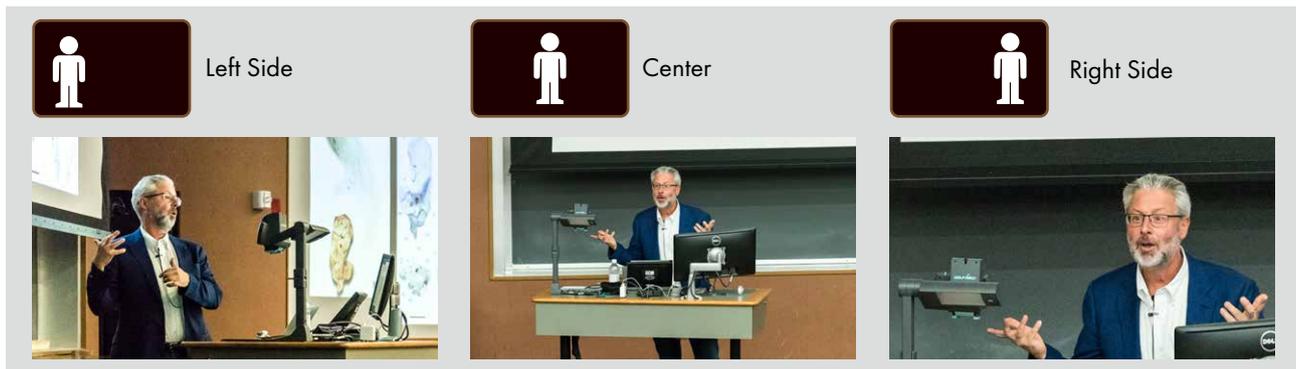

S-Shaped Speed Curve

Just like how the lift accelerates or decelerates, the camera lens movement will be smooth, avoiding jerky movements that are visible to naked eyes.

Talent Position: Center / Left Side / Right Side

The positioning of talent depends on the videographer's creativity and intent rather than strict rules. Different positions can convey various emotions, messages, or visual effects. A centered composition provides a sense of stability and balance, suitable for scenes that require highlighting the main subject. Videographers may also place the talent on the left third or right third of the frame, leaving adequate space in the foreground to showcase the talent's sight direction or potential future possibilities.

Left Side

Center

Right Side

Quick Access to Framing Options

In response to various shooting needs, you can quickly choose full-body, half-body, and close-up shots, making it convenient to change shooting scenes and framing requirements.

full-body

half-body

close up framing

Custom AI Object Tracking

If you are filming multiple people, you can designate a person for Auto tracking. Once linked to the camera, only the designated person will be tracked, avoiding interferences such as the desks, people coming back and forth, large objects, etc.

Accurately Select and Track Specific Speakers or Participants

Rear Panel

HDBaseT Input

HDBaseT IN
MAXIMUM 100M BY CAT 6

HDBaseT OUT
MAXIMUM 60M BY CAT 6

VIDEO IN

LOOP OUT

HDMI/PC

HDMI 1

HDBaseT Output

Video Loop Output

Video Input

Applications

Religious events

Conference hall

Theaters

Weddings

Stream

datavideo

STREAM

POWER   DC IN 48-56V

3
PUSH

VIDEO OUT
HDMI
2

F/W
UPGRADE

TALLY

AUDIO IN
CH 1   CH 2   L

R

Video output   Tally   Audio input

Compatible Hardware

PTC-145T
HD 20x HDBaseT
Tracking PTZ Camera

- Equipped with an HDBaseT interface, compatible with receivers for HDMI/ streaming output
- PTZ camera supports line-in audio input
- One-touch AI Tracking with smooth camera movements, no cameraman required
- Supports simultaneous streaming to two platforms
- 1/2.8" CMOS, 20x optical zoom, 8x digital zoom

PTC-155T
HD 30x HDBaseT Tracking
PTZ Camera

- 1/2.8-inch CMOS sensor, 1920x1080px Full HD resolution, 60fps frame rate
- 30x optical zoom, 16x digital zoom
- HDBaseT technology
- Built-in 2D/3D noise reduction
- H.264/H.265 video compression for live streaming

HDR-80
4K ProRes Video Recorder-
Desktop

- 5 inch LCD touch screen for operating and monitoring
- 4K/3G/HD/SD-SDI and HDMI input, Audio embedded output
- ProRes video compression for recording
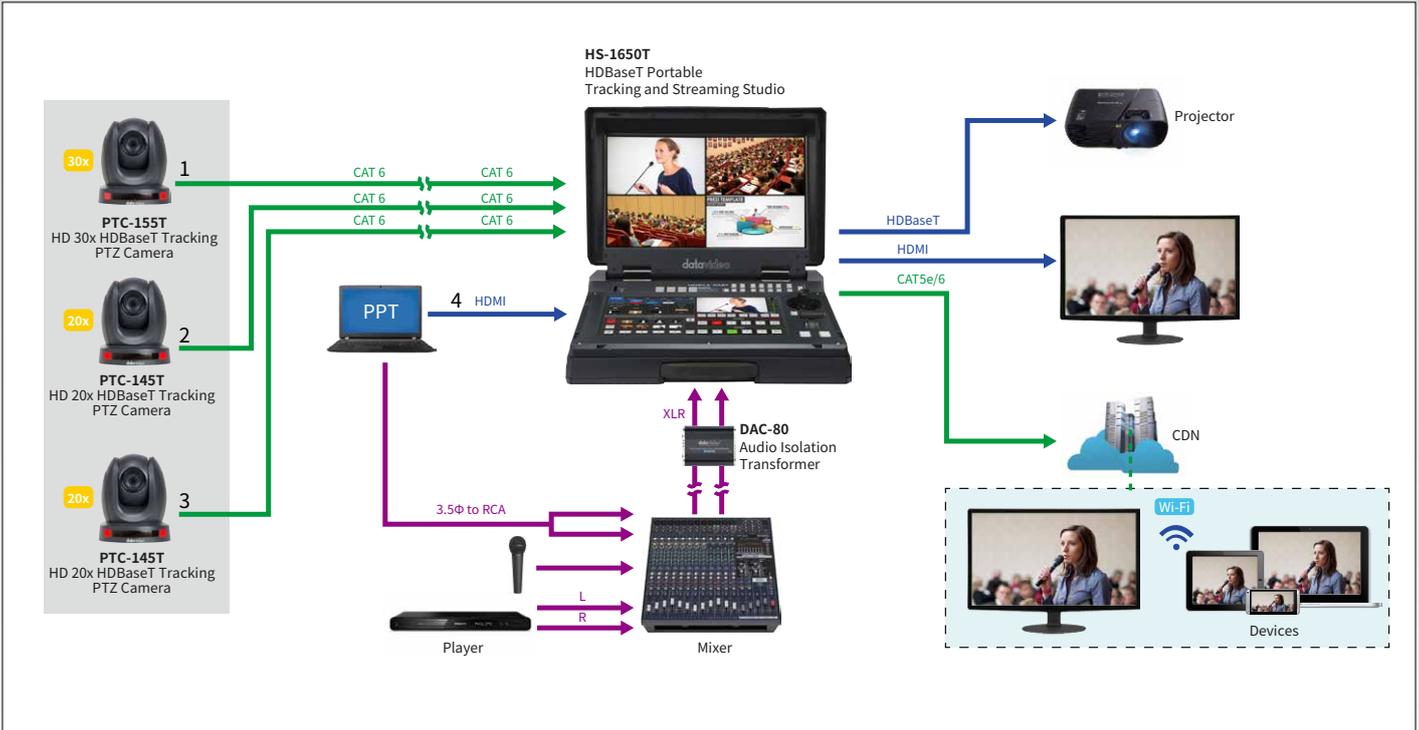- Dual 2.5" SSD storage
- DVIP, GPI and RS-232 control

AD-300
Pro Audio Delay
Box

- Dual RCA and triple XLR inputs
- Volume output adjustment range: 0–40dB
- Audio delay range: 0–3000 ms
- Supports XLR microphone input with DC 48V phantom power
- Built-in balanced/ unbalanced audio conversion function

Diagram

HS-1650T
HDBaseT Portable
Tracking and Streaming Studio

PTC-155T
HD 30x HDBaseT Tracking
PTZ Camera — 1

PTC-145T
HD 20x HDBaseT Tracking
PTZ Camera — 2

PTC-145T
HD 20x HDBaseT Tracking
PTZ Camera — 3

CAT 6 CAT 6
CAT 6 CAT 6
CAT 6 CAT 6

PPT — 4 HDMI

DAC-80
Audio Isolation
Transformer

XLR

3.5Φ to RCA

Player

Mixer

L
R

Projector

HDBaseT
HDMI
CAT5e/6

CDN

Wi-Fi

Devices

Specification

	HS-1650T
	HDBaseT Portable Tracking and Streaming Studio
Video Standard	HD & SD
Video Format	1080p 50/59.94/60Hz 1080i 50/59.94/60Hz 720p 50/59.94/60Hz 576i/p 50Hz 480i/p 59.94Hz
Video Input	3 x HDBaseT 1 x HDMI
Computer Graphic Interface	1 via HDMI
Down-converted Output	Yes
Video Output	3x HDMI PGM 1x HDBaseT PGM 1x STREAM (RJ-45)
Analogue Audio Input	2x Balanced XLR 1x Stereo RCA (L/R) De-embedded Digital Audio
Analogue Audio Output	1x Stereo headphone
Digital Embedded Audio Support	Input 2 channels, Output 2 channels
USK	1x USK support Lumakey
Picture in Picture	1

Built-in Audio Mixer	Yes, 4 channels
Built-in Monitor Display	17.3" HD TFT LED backlit, 1920x1080 pix
Streaming	H.264 / AVC, Main/ High Profile Configurable Bit-rate up to 7Mbps
Streaming Audio Encode	AAC-LC Configurable bit rate range from 32Kbps to 384Kbps Sample rate: 48KHz, 16bit
Streaming Protocol	RTSP, RTMP. SRT
Streaming Control	Web browser UI for configuration and control Socket commands
Recording File System	FAT, exFAT
Recording File Format	MP4
Streaming & Recording Setting Control	Web UI for system configuration and control
Special Features	Built-in camera controller
Dimension (LxWxH)	455 x 355 x 134 mm
Weight	17.2 Lbs (7.8 kg), Reinforce Plastic Case
Power	DC 56V, 4.46A
Operating Temp. Range	0~40 °C
What's in the Box	1 x HS-1650T Product 1 x AD Switch DC 56V with AC Cord 3 x Ethernet Cable