"DejaVu"
Instant Replay System

User Manual

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1. Features

"DejaVu" Instant Replay System is a simple and cost effective way to add multi-channel replay functionality to your production.

Easy to install and easy to use, "DejaVu" Instant Replay System offers:
- ✓ Uninterrupted recording. Recording never stops, even In Edit or Replay modes;
- ✓ More than 7 hours of recorded 1080p50 video (when using 512G SSD);
- ✓ Slow motion (50% – 20% of normal speed) and Fast motion (200% – 500% of normal speed) playback;
- ✓ Playlist mode;
- ✓ Can be used as a simple multi-channel recorder/player;

No PC connection is needed to operate or to configure "DejaVu" system. However, for those who prefer to operate from PC we offer free "DejaVu Replay Controller" software that provides more flexibility, advanced playlists and multi-view support.

"DejaVu" Instant Replay System is well suited for:
- ✓ Any live shows;
- ✓ Sport broadcasts – for instant replays;
- ✓ Sports clubs – for training, as an excellent assistant for coaches and athletes;
- ✓ Dance schools and ballet studios;
- ✓ Outdoor events – for large LED displays;

«Deja - Vu» Replay System

VIDEO

PTZ CAMERAS CONTROL
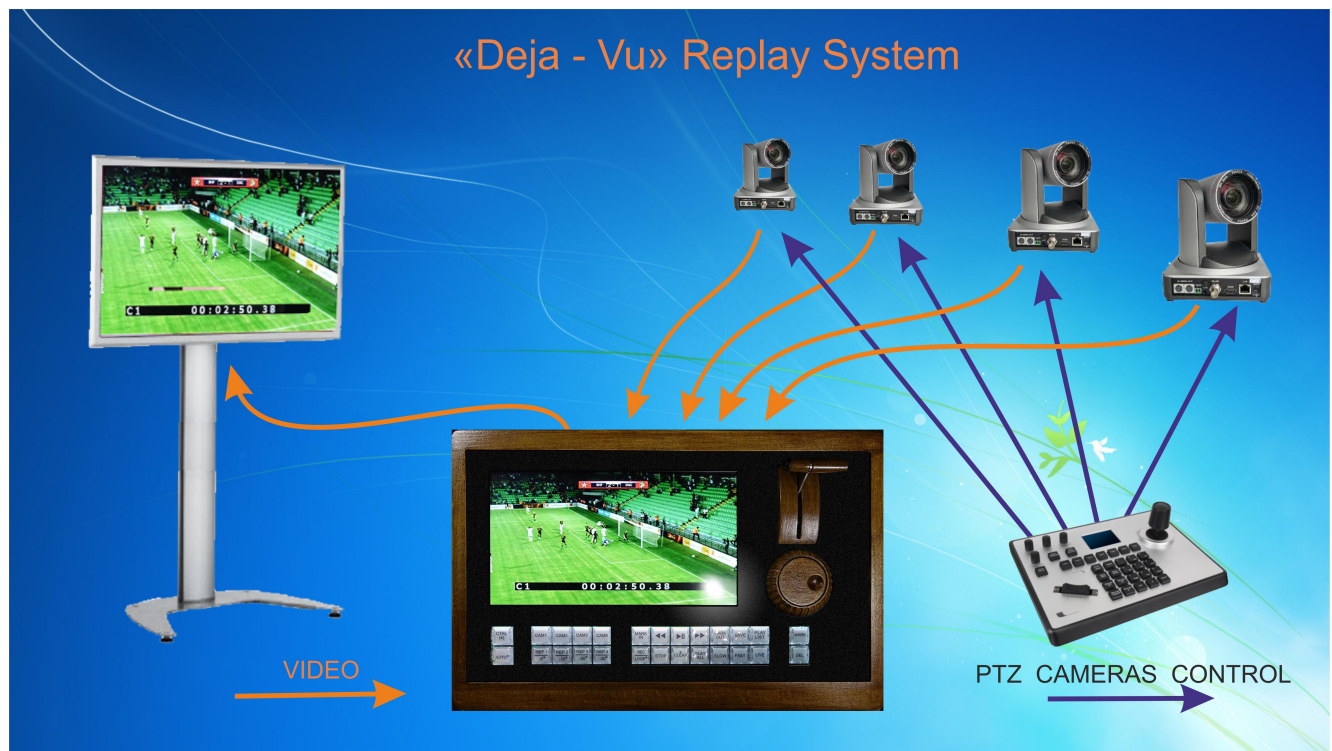
2. Unit design

"DejaVu" Instant Replay System is an all-in-one unit with integrated control panel and 10" TFT display. 4 SSD drives are placed inside the unit by installer.

Front panel:

Fig.1 Front panel

- ✓ 10" TFT - display ;
- ✓ T-Bar - Speed Control;
- ✓ Jog/Shuttle knob - Mark Position Adjustment;
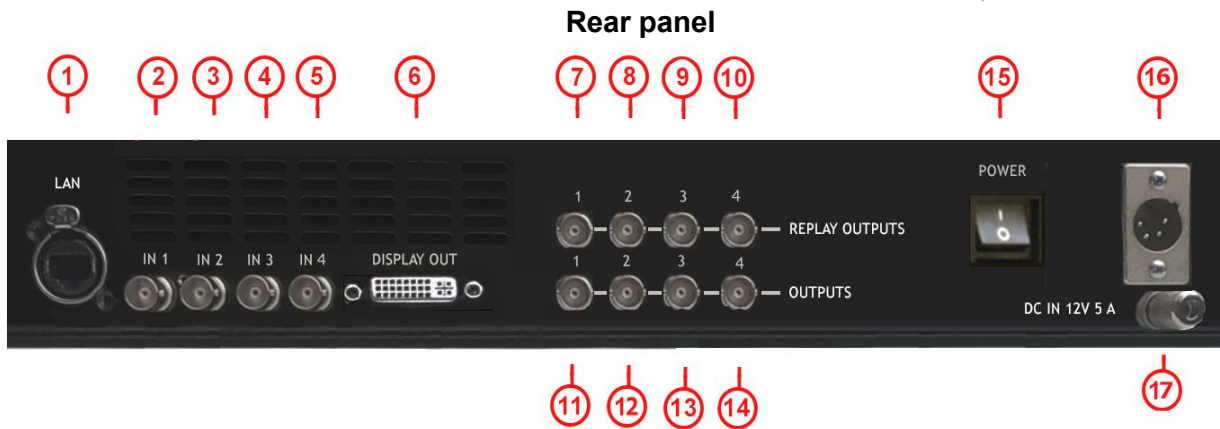- ✓ Control panel with 26 LED illuminated buttons;

Rear panel

Fig.2 Rear panel connectors:

1. RJ-45 Gigabit Ethernet – PC/LAN connection. Required for "DejaVu Replay Controller" software and firmware update;

2. BNC 3G-SDI – Channel 1 input (Camera *1*);

3. BNC 3G-SDI – Channel 2 input (***Camera 2***);

4. BNC 3G-SDI – Channel 3 input (***Camera 3***);

5. BNC 3G-SDI – Channel 4 input (***Camera 4***);

6. DVI-D – Display output for outstanding video monitor with HDMI input.

7. BNC 3G-SDI – Channel 1 Replay output;

8. BNC 3G-SDI – Channel 2 Replay output;

9. BNC 3G-SDI – Channel 3 Replay output;

10. BNC 3G-SDI – Channel 4 Replay output;

11. BNC 3G-SDI – Channel 1 Bypass output;

12. BNC 3G-SDI – Channel 2 Bypass output;

13. BNC 3G-SDI – Channel 3 Bypass output ;

14. BNC 3G-SDI – Channel 4 Bypass output ;

15. Power switch;

16. 12V/5A DC power supply main connector;
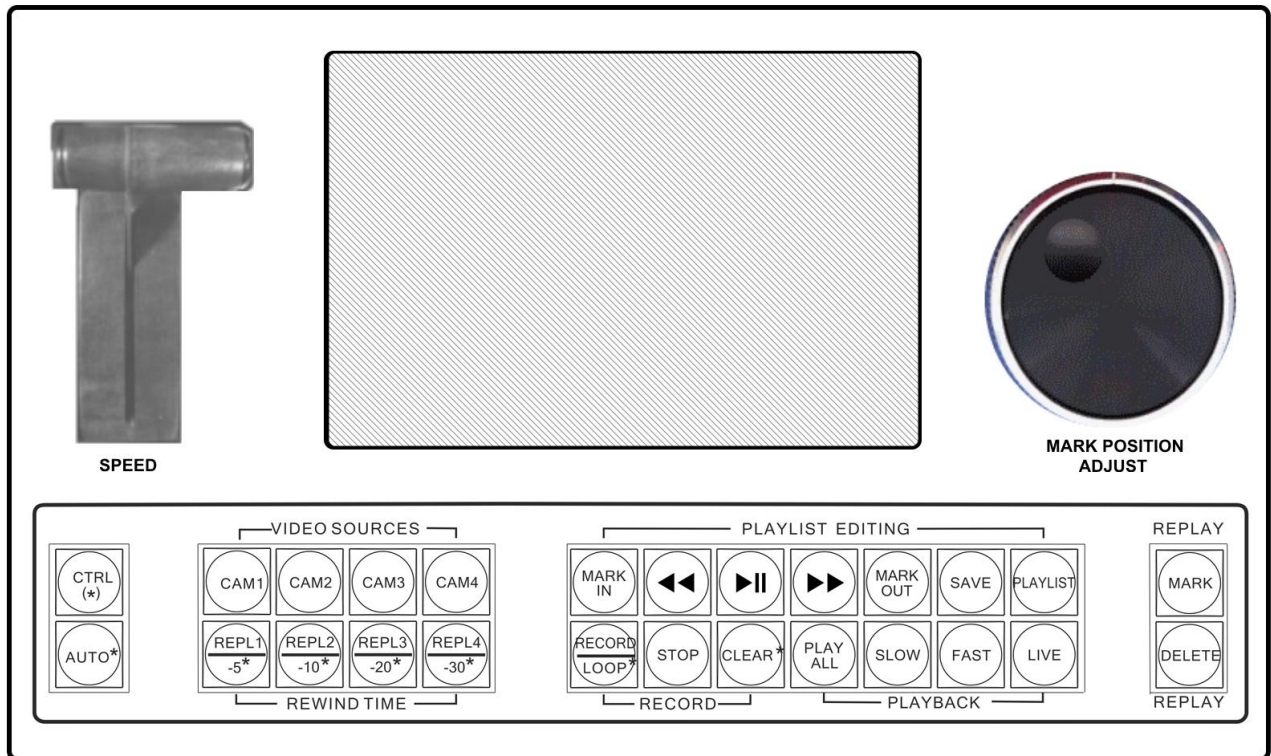
17. GND connector;

3. Controls

Fig.3 Front panel controls

T-Bar " Speed" is used to control playback speed in *SLOW* and *FAST* modes. Lowest T-Bar position is normal speed. Highest T-Bar position is slowest speed in *SLOW* mode and fastest speed in FAST mode.

**Jog/Shuttle knob " Mark position adjust"** is used for cursor positioning in *EDIT* mode. Turn *Shuttle c*lockwise to fast-forward, turn counter-clockwise to rewind. Turn **Jog** for precise frame-by-frame control.

4. Control panel buttons

The part of control panel buttons have primary and secondary functions.

Press and hold the [CTRL (*)] button to activate secondary function (marked *)

4.1. Video Sources. Dependent buttons - selection a new one is disables the previous input.

CAM1	Show live video from Input channel 1 (CAMERA 1) on display. *Lights up if CAMERA 1 video source is active.*
CAM2	Show live video from Input channel 2 (CAMERA 2) on display . *Lights up if CAMERA 2 video source is active.*
CAM3	Show live video from Input channel 3 (CAMERA 3) on display. *Lights up if CAMERA 3 video source is active.*
CAM4	Show live video from Input channel 4 (CAMERA 4) on display. *Lights up if CAMERA 4 video source is active.*
REPL1 -5*	Show recoded video from Replay channel 1 on display. *Lights up if Replay channel 1 video source is active.*
REPL2 -10*	Show recoded video from Replay channel 2 on display. *Lights up if Replay channel 2 video source is active.*
REPL3 -20*	Show recoded video from Replay channel 3 on display. *Lights up if Replay channel 3 video source is active.*
REPL4 -30*	Show recoded video from Replay channel 4 on display. *Lights up if Replay channel 4 video source is active.*

4.2 Playlist editing

|	
MARK IN	*During repeat playback (> II button pressed), sets the current frame of the clip as the start frame. Lights up while pressed.*
◀◀	The transition to the previous clip in the playlist (lights up only for the duration of the press.)
▶II	Playback Control (Play-Pause) Lights up during playback. During pause – flashes.
▶▶	The transition to the next clip playlist (Lit only while pressed.)

MARK OUT	Sets the current frame of the clip as the ending frame. Lights up while pressed.
SAVE	Save current replay clip in playlist.
PLAYLIST	Playlist Mode

4.3 Playback

PLAY ALL	Plays all clips in a playlist sequentially. It implements the simplest mode of operation: during transmission, the MARK button sets the marks of interesting moments (with a predetermined REPL1-4 rollback), at the end of the transmission PLAY ALL is turned on - all clips are played sequentially. Blinks during playback.
SLOW	Three playback modes. One of them is always active - (One of the 3 buttons is always lit) Slow motion playback
FAST	Fast playback
LIVE	Playback at normal speed

4.4. Rewind Time

Automatically set IN mark positions according to predefined time
(-5, -10, -20 or -30 seconds).
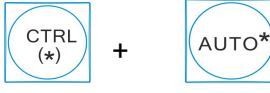
CTRL (∗) + **REPL1 -5∗**	Set MARK position rewind time to -5 seconds. *Lights up if current setting is [-5 seconds].*
+ **CTRL (∗)** **REPL2 -10∗**	Set MARK IN position rewind time to -10 seconds. *Lights up if current setting is [-10 seconds].*
+ **CTRL (∗)** **REPL3 -20∗**	Set MARK IN position rewind time to -20 seconds. *Lights up if current setting is [-20 seconds].*
CTRL (∗) + **REPL4 -30∗**	Set MARK IN position rewind time to -30 seconds. *Lights up if current setting is [-3\0 seconds].*

4.5. Record

|	
RECORD / LOOP*	Start recording. *Lights up if recording is currently ON.*
STOP	Stop recording.
CLEAR*	Delete all recorded video footage. Also stops recording if it's active. All clips saved to the playlist will be deleted as well. *WARNING: All recorded video on SSD will be lost!*

4.6 Recording mode settings.

CTRL (*) + RECORD / LOOP*	Activate or deactivate **LOOP** recording mode. Once the SSD is full, recording continues from the beginning. Previous information is erased *Lights up if **LOOP** recording mode is active.*
CTRL (*) + AUTO*	Activate or deactivate **AUTO** recording mode. Writing to a disc starts when the device is turned on. *Lights up if **AUTO** recording mode is active.*

5. On-Screen-Display (OSD)

OSD information is automatically overlaid on built-in display at all times. During normal operation OSD shows following information (left to right):

Object	OSD Indicator	Description
VIDEO SOURCE	C1	Input channel 1 (CAM1)
	C2	Input channel 2 (CAM2)
	C3	Input channel 3 (CAM3)
	C4	Input channel 4 (CAM4)
	R1	Replay channel 1 (REP1)
	R2	Replay channel 2 (REP2)
	R3	Replay channel 3 (REP3)
	R4	Replay channel 4 (REP4)
CLIP	NN	Only in **PLAYLIST** mode: selected clip number (**01 – 32**). If PLAY ALL mode is active, (**--**) is displayed instead.
TIMECODE	HH:MM:SS:FF	Time code in hours:minutes:seconds:frames format: In **LIVE** mode: time code of last recorded frame; In **EDIT** mode: time code of current frame on playback; In **REPLAY** mode: time remaining to end of the current clip or playlist.
SPEED	NNN%	Only in **SLOW** or **FAST** modes: relative playback speed as selected by T-Bar position (20% - 500%).

When ⬚ CTRL (∗) button is pressed and held, OSD is changed to show configuration and status information (left to right):

Object	OSD Indicator	Description
RECORDING	REC	Recording is ON
	STOP	Recording is OFF
CAPACITY	SSD: HH:MM	Installed SSD capacity in hours:minutes of recorded video. If SSD are not installed or faulty, **SSD: --:--** is displayed instead.
TEMPERATURE	+NNC	Internal chipset temperature (in degrees Celsius). *Warning: temperature reading higher than +70°C may indicate cooling fan failure!*

6. Operation

6.1. Recording modes

"DejaVu" Instant Replay System can be configured to use several recording modes to better suit different applications. Please carefully choose recording mode for your situation before you begin working with the unit.

After powering up, recording position is always set after the last frame recorded in previous session. Next action depends on recording modes set:

Recording Mode	State	Description
LOOP	ON*	When SSD capacity is reached, recording will continue from the start of SSD, deleting older video. Last recorded 7+ hours of video (for 512GB SSD) will always be available for replays.
	OFF	When SSD capacity is reached, recording will stop. To continue recording: Either press [CTRL (*)] + [CLEAR*] to delete all video and start from the beginning, Or change *LOOP* recording mode to ON and continue recording.
AUTO	ON*	The unit automatically starts recording after powering up.
	OFF	The unit will **not** start recording after powering up.

(*) – default settings

6.2. Preparing to live broadcast or event

Connect cameras to **CAM1** - **CAM4** 3G-SDI video inputs. Connect **REP1** - **REP4** replay outputs to your video switcher. Optionally connect bypass outputs to your video switcher. Connect power supply to the unit and switch power on;

If AUTO mode is ON, recording will start automatically. Otherwise, begin recording manually by pressing [RECORD / LOOP*]. Optionally, press [CTRL (*)] + [CLEAR*] to delete all previous recorded video and start new session.

After event is finished, optionally press [CTRL (*)] + [STOP] to stop recording.

6.3. Playback modes

" DejaVu" Instant Replay System operates in different playback modes depending on user actions.

Please note that all playback channels are always synchronized., For example, if Jog/Shuttle is moved to change current playback position on Channel 1, playback position will also change to the same timestamp on Channels 2-4.

After powering up, playback position is always set at the last frame recorded in previous session.

Mode	Operation
EDIT	Press (MARK) to create replay clip. Press (▶II) to play the clip. Use Jog/Shuttle knob to change current position. Press (MARK IN) to change current position of the clip's start Press (MARK OUT) to change OUT mark to current position. Press (SAVE) to add replay clip to playlist.
REPLAY	(▶II) Press to start playback of the replay clip. Press again to start / pause for playback control. You can use (SLOW) or (FAST) and use T-Bar to select slow motion or fast motion playback speed. Playback will automatically stop at the last frame. You can press (▶II) to cue last replay clip again.

Mode	Operation
PLAYLIST	Press ⏪ or ⏩ to cue clip from the playlist. Or press (PLAY ALL) to play all clips. Press (DELETE) to delete selected clip from playlist. Press ▶❚❚ to start playback of the selected clip or entire playlist. Press again to play / pause. You can use (SLOW) (FAST) (LIVE) and T-Bar to select slow motion or fast motion playback. Playback will automatically stop at the last frame of the last clip.

6.4. Instant replay

You can select live video to the built-in display via 4 keys:

(CAM1) (CAM2) (CAM3) (CAM4)
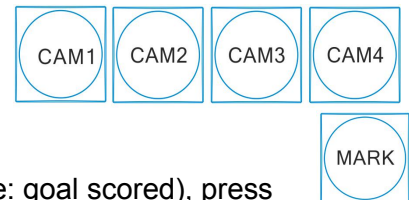
When you see a moment you would wish to replay later (for example: goal scored), press (MARK)

     Replay clip with previous 5, 10, 20 or 30 seconds of recorded video will be automatically created. First frame of the replay clip will be shown and the system will switch to **REPLAY** mode. Built-in display will switch to *REP1* replay channel.
No need to guess how the situation on the playing field will turn out – press (MARK) *after the goal is scored!*
     If you want to correct MARK IN or MARK OUT positions, use Jog/Shuttle knob to change current position and then press **<<** or **>>** to set new position. First frame of the replay clip will be shown and the system will switch to **REPLAY** mode.

     If you want to add replay clip to playlist, press . (SAVE) If there are already 32 clips in the playlist (playlist is full), first clip will be deleted and new clip will be added at the last position.

Press [▶II] to start playback of the replay clip. Press again to pause / resume.

If you need slow motion or fast motion, press [SLOW] or [FAST] and use T-Bar to change playback speed accordingly. Speed can be adjusted before playback, during playback or when playback is paused.

Playback will automatically stop at the last frame. You can press [▶II] to cue last replay clip again.

Press [MARK] again to create another instant replay.

6.5 Manual replay

Press [REPL1 -5*] or [REPL2 -10*] or [REPL3 -20*] or [REPL4 -30*] to watch recorded video from any of the cameras.

Use Jog/Shuttle knob to select starting position for a new replay clip. Press [MARK IN] to set.

Use Jog/Shuttle knob again to select ending position for a new replay clip. Press [MARK OUT] to set.

Replay clip is now ready. First frame of the replay clip will be shown and the system will switch to **REPLAY** mode.

If you want to add this replay clip to playlist, press [SAVE]. If there are already 32 clips in the playlist (playlist is full), first clip will be deleted and new clip will be added at the last position.

Press [▶II] to start playback of the replay clip. Press again to pause / resume.

If you need slow motion or fast motion, press [SLOW][FAST] and use T-Bar to change playback speed accordingly. Speed can be adjusted before playback, during playback or when playback is paused.

Playback will automatically stop at the last frame. You can press [▶II] to cue last replay clip again.

Or press [DELETE] to delete current replay clip and start over again.

6.6. Working with playlist

"DejaVu" Instant Replay System allows to save up to 32 replay clips and play them later either individually or in batch.

Press (PLAYLIST) to enter playlist mode. If there's at least one saved replay clip, the system will enter **PLAYLIST** mode and the button will light green.

Press (◀◀) or (▶▶) to select clip (01 – 32) from the playlist. Current clip number is shown on OSD. Selected clip is automatically cued and ready for playback.

If you want to delete selected clip from playlist – press (DELETE) (*Note: this operation cannot be undone!*) Remaining clip numbers will be shifted towards first. If there are no more clips, the system will exit from playlist mode automatically.

To cue all clips from the playlist press (PLAY ALL) First frame of the first clip will be shown and clip number OSD indicator will change to **--**. In this mode clips will be played one-by-one without pauses.

Press (▶II) to start playback of the selected clip (or entire playlist). Press again to pause / resume.

If you need slow motion or fast motion, press (SLOW) or (FAST) and use T-Bar to change playback speed accordingly. Speed can be adjusted before playback, during playback or when playback is paused.

Playback will automatically stop at the last frame of the last clip.

6.7. Simple recorder/player

"DejaVu" Instant Replay System can be used as a simple multi-channel digital recorder/player. This mode is also useful as a fixed-delay display for sports training sessions – for example a gymnast can immediately see how he/she has performed the jump.

Press (REPL1 -5*) or (REPL2 -10*) or (REPL3 -20*) or (REPL4 -30*) to watch recorded video from any of the cameras.

Use Jog/Shuttle knob to fast forward or rewind.

Press (▶II) to start playback from current position. Press again to pause / resume. Playback will continue until SSD end is reached or indefinitely if **LOOP** recording mode is active.

6.7 Program DejaVu Replay Controller

The «DejaVu Replay Controllerl» program is deliverable at the set and provides full functioning with a Deja Vu system from PC.