

# Witness and Victim Protection System "SRS Anonymity System"

## □ Purpose

**SRS Anonymity System** is a hardware and software system, designed for witness and victim protection ensuring his/her unrecognition while stating evidence at criminal proceeding by means of voice modification without possibility to restore the original voice.

The application of **SRS Anonymity System** allows preventing multiple cases when victims and witnesses refuse or avoid stating evidence in criminal proceedings.

Previously, when there was no special equipment for voice modification, the witness had to answer questions in a written form in a separate room. It was uncomfortable and caused numerous complaints from advocates. Now the virtual presence of the witness in court satisfies both parties.

## □ Application

**SRS Anonymity System** is used within the witness protection program, as it implies modification of witness's voice and ensures security of victims, witnesses and other participants of criminal proceeding.

During the court proceeding the witness is in a separate room – "secret room", which may be either in the court building or outside it.

The audio and video from the courtroom are broadcasted to the "secret room" and the witness's modified voice is broadcasted to the courtroom. If needed, video of the witness is broadcasted to the judge's personal monitor to identify the witness. The connection is established via LAN or Internet through the secure channel with application of special hardware. The audio and video are transmitted without significant delay and quality loss.

## □ Advantages

**SRS Anonymity System** enables virtual presence of witness at criminal proceeding, and his/her anonymity by means of the voice modification at stating evidence.

The voice modification device "**SRS Audio Interface VC11/12**" (**SRS Voice Changer**) ensures the impossibility to restore the modified voice at sufficient speech intelligibility.

Modification of victim's or witness's voice enables conduction of their examination without declaring their identities.

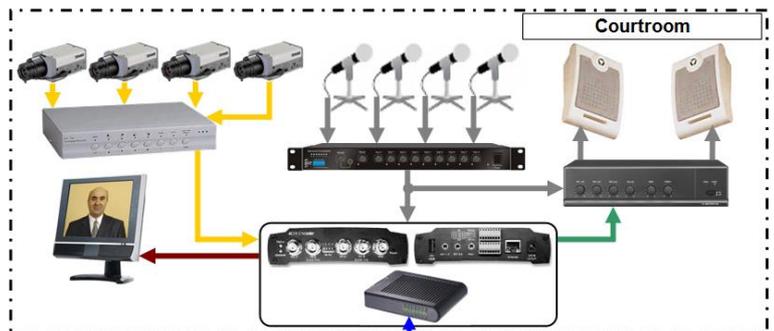
## □ Structure

**SRS Anonymity System** includes the voice modification system, microphone system, video system, public address system and data transfer system over network (video conferencing, IP cameras, IP gateways) or can use the corresponding equipment installed in the courtroom.

**SRS Anonymity System** is seamlessly integrated with the Court Recording System "**SRS Femida**".

### Components:

- Courtroom**
- Microphone system (microphones, preamplifier/mixer);
  - Public address system (amplifier, acoustic system);
  - Video system (monitor, video cameras, multiplexer);
  - Equipment for audio/video data transfer via IP network (optionally).



- Witness room**
- Voice modification device "SRS Voice Changer";
  - Microphone;
  - Acoustic system and headset;
  - Video system (monitor, video camera (optionally));
  - Equipment for audio/video data transfer via IP network (optionally).



## ❑ SRS Voice Changer ("SRS Femida Audio Interface VC11/12")

The voice modification device **SRS Voice Changer** (Audio Interface "SRS Femida Audio Interface VC11/12") is the main component of **SRS Anonymity System**.

The voice modification device is DSP-based and utilizes a unique algorithm of vocoder transformation of speech signal with modification of voice individual characteristics excluding the possibility to recognize witness or victim by his/her voice.

**SRS Voice Changer** allows deletion of speaker's original intonation and creation of monotonous intonation of the voice. The original speakers' voices characteristics are replaced by the preset ones. As a result of this transformation, the voice becomes unrecognizable, though its intelligibility is preserved and all modified voices sound practically with the same timbre.

The voice modification system ensures impossibility to restore the original voice by the same **SRS Voice Changer** or by means of the audio editors like Magix Samplitude, Adobe Audition, Sound Forge, etc.

The design of **SRS Voice Changer** excludes the possibility of transmission of original/unmodified voice to the courtroom.

**SRS Voice Changer** is implemented on the basis of the DSP signal processor and available as desktop model (see Fig. 1). The rack-mount model is also available if requested.



Fig. 1. SRS Femida Audio Interface VC12

## ❑ Technical Specifications (SRS Femida Audio Interface VC12)

Name	Description
Operation modes	<ul style="list-style-type: none"> <li>• Low voice with monotone effect</li> <li>• High voice with monotone effect</li> </ul>
Inputs	<ul style="list-style-type: none"> <li>• Microphone with phantom power</li> <li>• Linear</li> </ul>
Outputs	<ul style="list-style-type: none"> <li>• Linear</li> <li>• Headsets (adjustable)</li> <li>• Digital USB</li> </ul>
Nominal level of input signal on microphone input	2,5 - 25,0 mV (AGC, Limiter, and Noise Gate are used)
Nominal level of input signal on linear input	1000 mV
Nominal level of output signal on linear output	1000 mV
Frequency range of input signal	70 Hz - 3600 Hz
Acceptable frequency range of main tone of input signal	70 Hz - 400 Hz
Range of transformation of main tone frequency	± 1 octave
Range of speech formants transformation	± 1 octave
Voice delay inserted by the system	<50 ms
Intelligibility of modified voice	Good, quality class by intelligibility is not worse than 1 (understanding of transmitted speech is without difficulties) in accordance with Government Standards "GOST P 51061-97" and "GOST P 50840"
Recognizability of modified voice	1 score (no recognizability) in accordance with Government Standard "GOST P 51061-97"
Nominal signal power at output for headsets	30 mW
Intrinsic noises level	-78 dBu
Type of connected microphone	Condenser, super-cardioid
Operational requirements	<ul style="list-style-type: none"> <li>• Operation mode: continuous</li> <li>• Ambient temperature: -10 ÷ +40 °C;</li> <li>• Relative humidity: &lt;80 % at +30 °C;</li> <li>• Atmospheric pressure: 630 ÷ 795 mmHg</li> </ul>

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