Elevator V2 Demo

N9H20K5 Non-OS
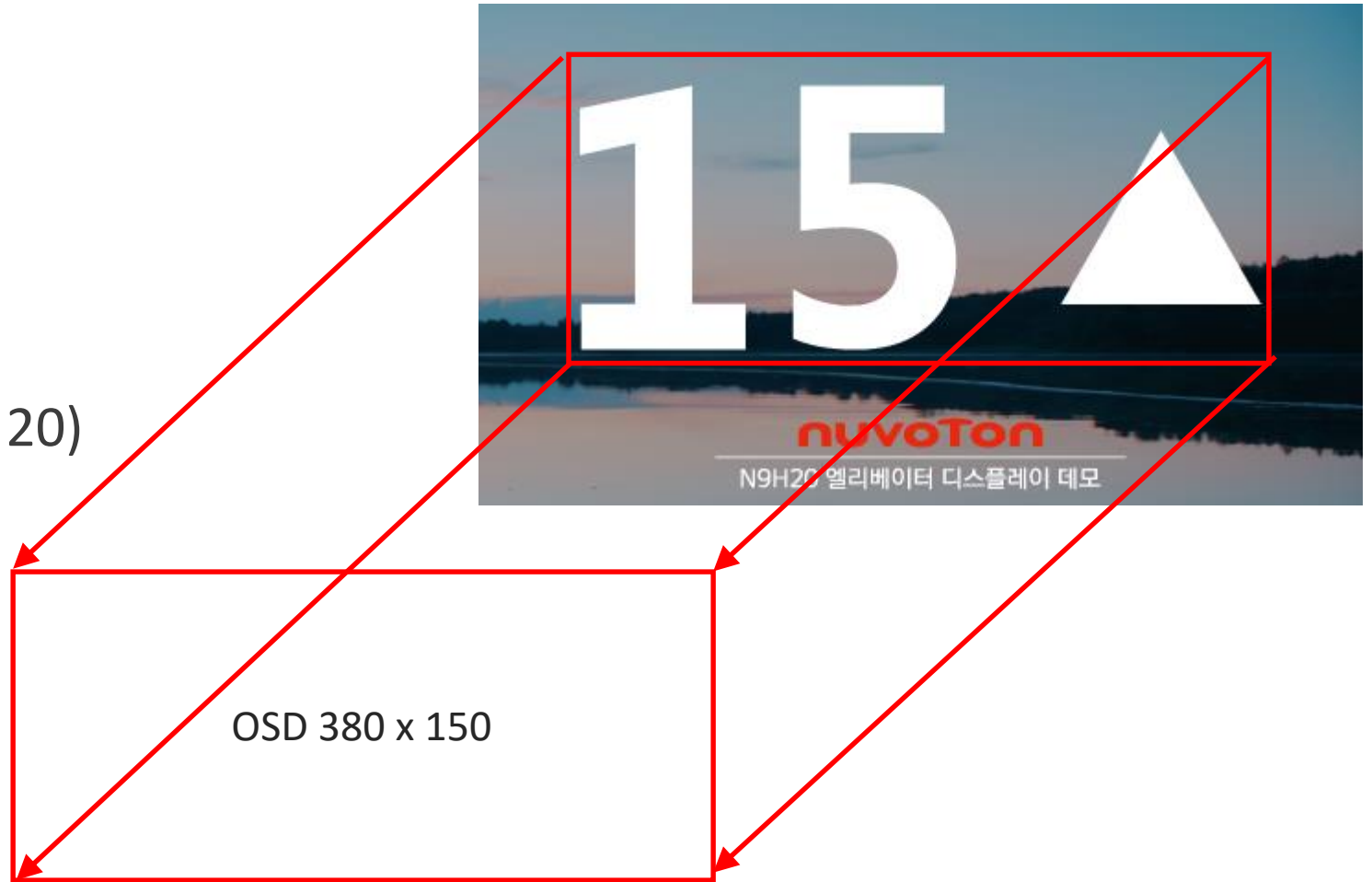
Joy of innovation
nuvoTon

Introduction

- 2022 elevator 2nd generation demo

- Demo spec
  - Floor number & Arrow effect
  - GUI library: emWin v6.10f
  - N9H20K5 Non-OS
  - LCD 480x272 4.3" + OSD
  - Add support for Korean language
  - Add support RTC
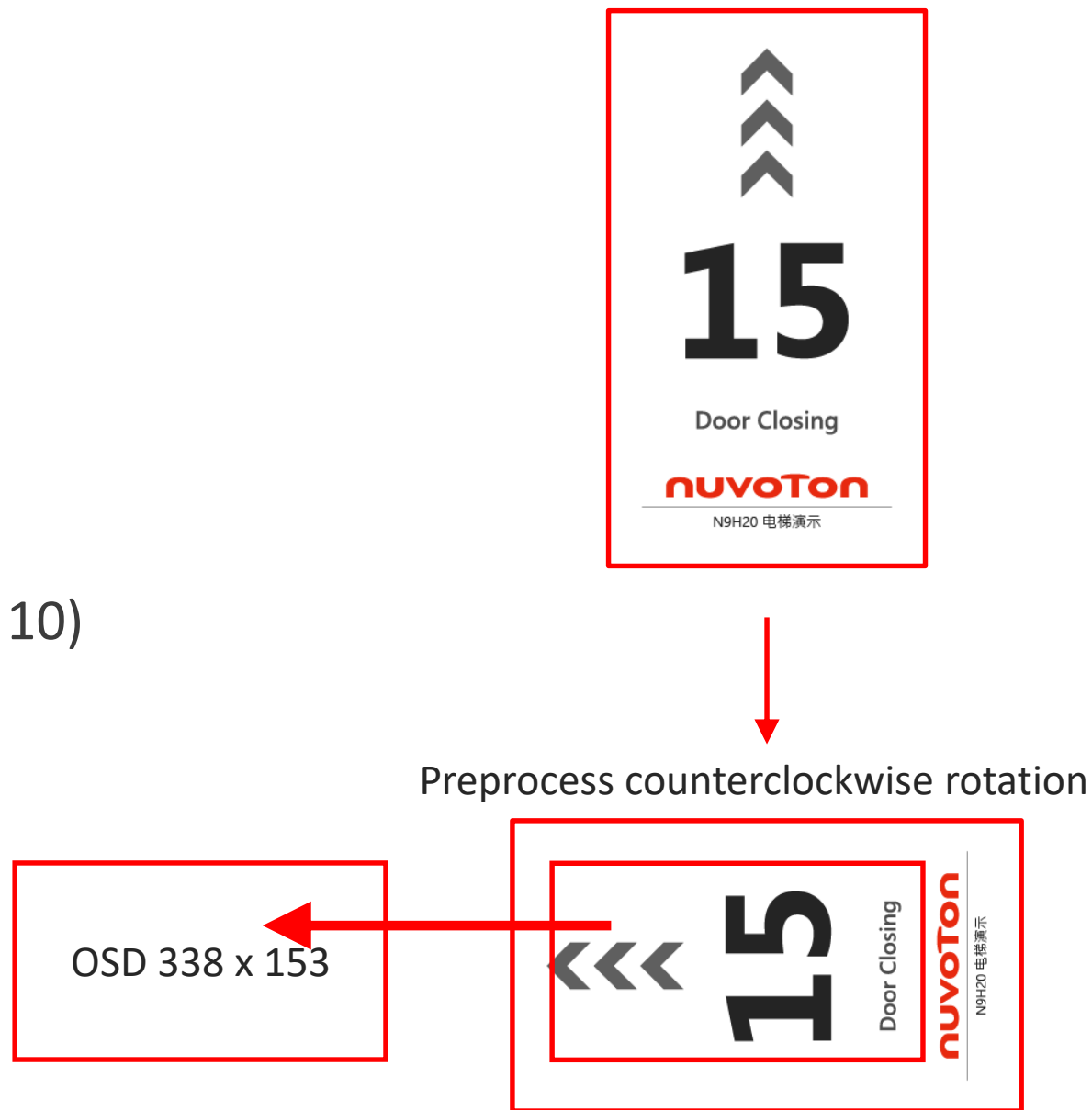 - Ping-pong buffer, Frame rate control & audio

nuvoTon

Demo1

- Korean language
- Floor number
  - 110 x 150 (0 ~ 9)
- Arrow
  - 110 x 150 (down: 20; up: 20)
- Background
  - 480 x 272
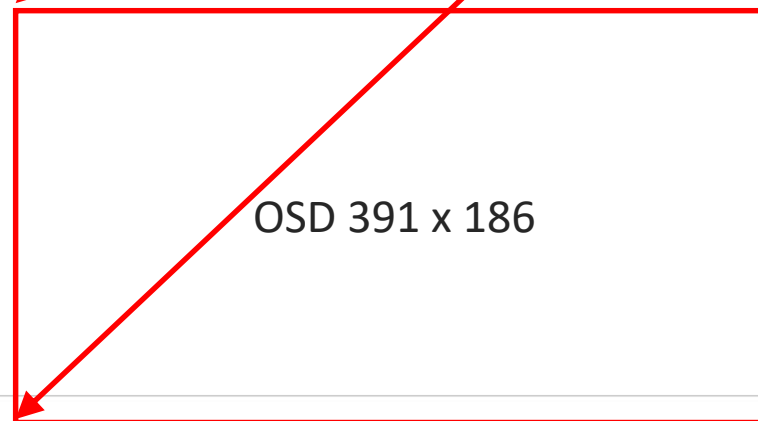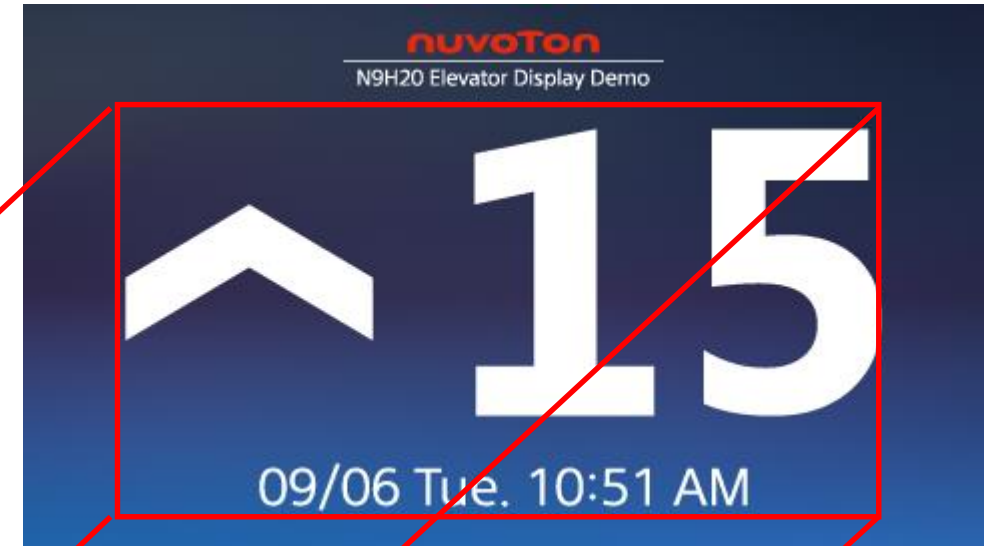- OSD
  - 380 x 150

OSD 380 x 150

Demo2

- Chinese language
- Floor number (original)
  - 100 x 73 (73 x 100) (0 ~ 9)
- Arrow (original)
  - 127 x 44 (44 x 127) (down: 10; up: 10)
- Background (original)
  - 480 x 272 (272 x 480)
- OSD
  - 338 x 153

Preprocess counterclockwise rotation

OSD 338 x 153

Demo3

- English language
- Floor number
  - 110 x 150 (0 ~ 9)
- Arrow
  - 130 x 70 (down: 26; up: 26)
- Background
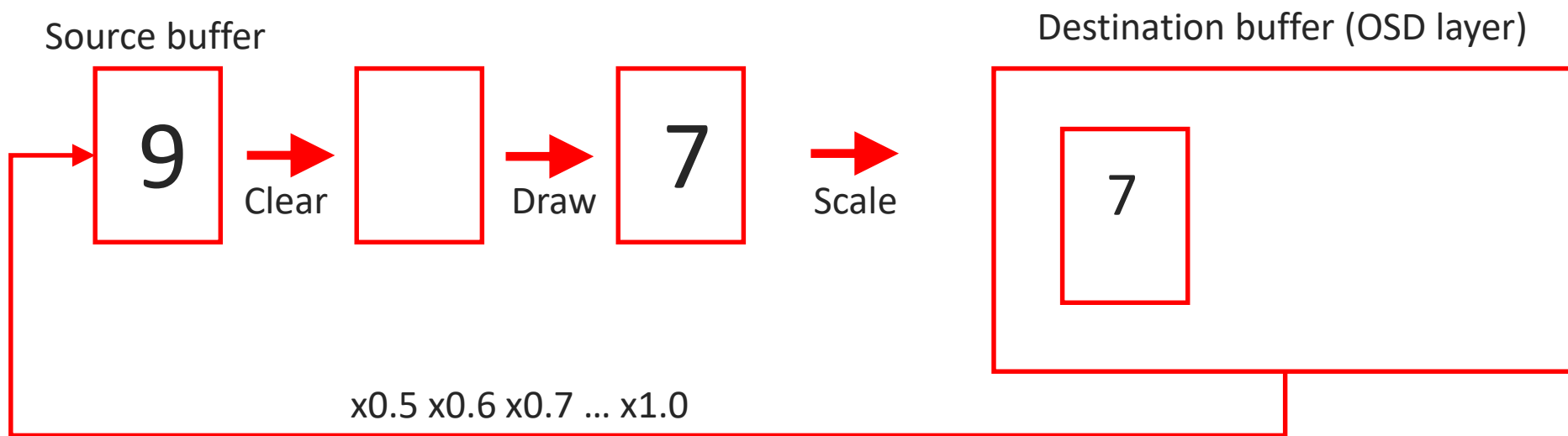 - 480 x 272
- OSD
  - 391 x 186

OSD 391 x 186

Appendix

- Frame rate
  - FPS: 25
- Ping-pong buffer
  - Front canvas
  - Back canvas
- Two layers
  - VPOST frame buffer: YUV (JPG)
  - OSD buffer: ARGB8888 with various size
- Audio
  - Built-in wav decoder (wav files stored in NAND flash with NVTFAT)

nuvoTon

Appendix (CONT.)

- Floor effect
  - Scaling

Source buffer

Destination buffer (OSD layer)

9 → Clear → [blank] → Draw → 7 → Scale → 7

x0.5 x0.6 x0.7 … x1.0

- Demo video
  - \\nuvoton.com\public\MS30\CS

Name	Date modified	Type	Size
Demo1.mp4	2022/10/17 下午 12:10	MP4 Video	7,088 KB
Demo2.mp4	2022/10/17 下午 12:10	MP4 Video	7,773 KB
Demo3.mp4	2022/10/17 下午 12:10	MP4 Video	8,735 KB

nuvoTon

谢谢
謝謝
Děkuji
Bedankt
Thank you
Kiitos
Merci
Danke
Grazie
ありがとう
감사합니다
Dziękujemy
Obrigado
Спасибо
Gracias
Teşekkür ederim
Cảm ơn

Joy of innovation
nuvoTon

Q&A

- How to burn?
  - Into recovery mode (short JP1) → Connect to PC via USB cable → connect power cable & power on (S3) → Double click AutoWriter.exe
- What is the Demo1, Demo2 & Demo3 application name?
  - Demo1: conprog.bin (Korean language)
  - Demo2: 2onprog.bin (Chinese language)
  - Demo3: 3onprog.bin (English language)
- Where are the language wav files?
  - Korean language: NAND1-2/WAV/1
  - Chinese language: NAND1-1/WAV
  - English language: NAND1-2/WAV

nuvoTon