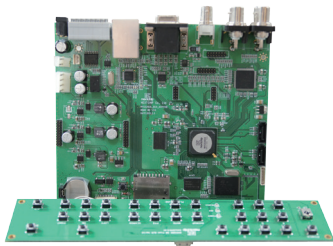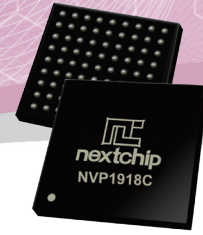# 8-Ch 960H Video Decoder with 9-Ch PCM Audio Codec
NVP1918C

NVP1918C includes 8-Ch 960H video decoder and 9-Ch audio codec, which guarantees high quality images. It accepts separate 8 CVBS inputs from camera, TV, DVD and the other video signal sources. It digitizes and decodes NTSC/PAL/COMET video signal into digital video signal which represents 8-bit ITU-R BT.656/1302 4:2:2 format with 27/36/54/72/108/144MHz multiplexed. Each video output can be selected between 720H and 960H. 9-Ch audio codec is 8-Ch PCM audio/1-Ch PCM mic codec which handles voice band signals with 8bit/16bit linear PCM, 8bit G.711(μ-law, A-law) PCM. Built-in audio controller generates digital outputs for recording/mixing and accepts digital input for playback. In addition, It supports Coaxial Protocol up to 5C-2V(Coaxial Cable) 200m. COMET is Composite Video of Enhanced Technology in SD video by NEXTCHIP.

● Features

- 8-Ch 960H video decoder
- 3H/5H, 2D-Adaptive Comb Filter and Notch Filter
- White Peak Detection and Peak AGC
- On-Chip 9-Ch PCM audio codec
- Mute Detection and Noise Cancelation
- Various output I/F (27/36/54/72/108/144MHz)
- Cascade mode up to 16-Ch
- Motion detection (32×24)
- Compact package
- Low power consumption
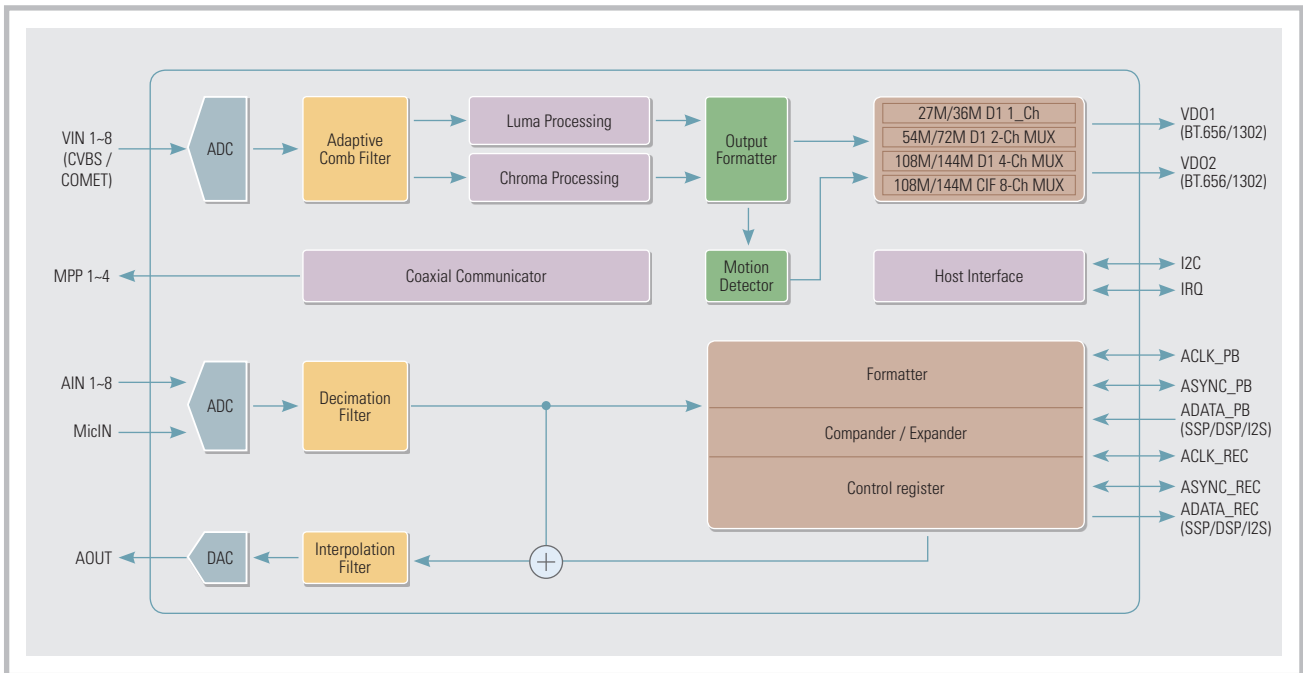- Coaxial Protocol
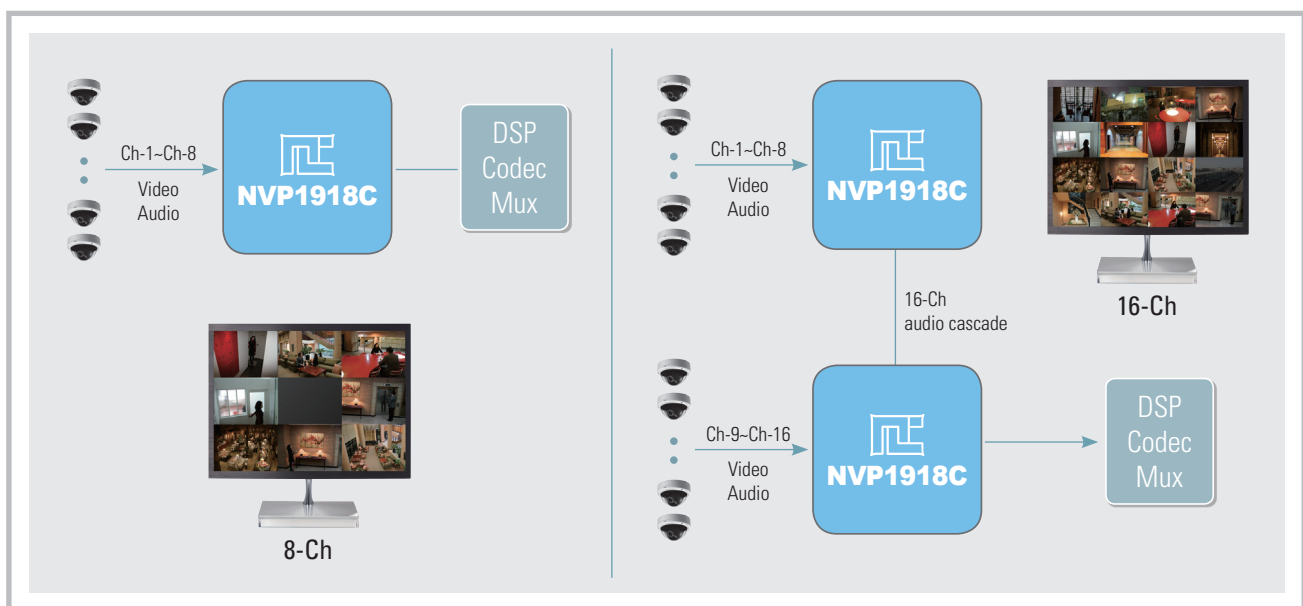- Auto Detection for CVBS & COMET

● Specifications

Input I/F	• Video : 8Ch Analog CVBS(NTSC/PAL/COMET) • Audio : 9Ch Analog audio (1-Ch for Mic) 1Ch Digital audio (for PB)

Output I/F	• Video : 2-ports Digital 4:2:2 8bit ITU-R.656/1302
	   27M/36M/54M/72M/108M/144M
	• Audio : 1Ch Analog audio (live/mix/PB)
	   2Ch Digital audio (record/MIC)
	   I2S/SSP/DSP interface (master/slave)

Etc	• Motion detection (32×24 resolution) • Coaxial Protocol : 5C-2V(Coaxial Cable) 200m • I2C interface • Operation voltage : 3.3V , 1.2V • Package(76-eQFN 9mm×9mm 0.4p)

Video Decoder

nextchip

NVP1918C Block Diagram

VIN 1~8 (CVBS / COMET)	ADC → Adaptive Comb Filter → Luma Processing / Chroma Processing → Output Formatter

Output Formatter:
- 27M/36M D1 1_Ch
- 54M/72M D1 2-Ch MUX
- 108M/144M D1 4-Ch MUX
- 108M/144M CIF 8-Ch MUX

VDO1 (BT.656/1302)
VDO2 (BT.656/1302)

MPP 1~4 ← Coaxial Communicator

Motion Detector

Host Interface → I2C, IRQ

AIN 1~8 → ADC
MicIN → ADC → Decimation Filter

Formatter
Compander / Expander
Control register

ACLK_PB
ASYNC_PB
ADATA_PB (SSP/DSP/I2S)
ACLK_REC
ASYNC_REC
ADATA_REC (SSP/DSP/I2S)

AOUT ← DAC ← Interpolation Filter

NVP1918C Application 8-Ch / 16-Ch

Ch-1~Ch-8 Video Audio → NVP1918C → DSP Codec Mux

8-Ch

Ch-1~Ch-8 Video Audio → NVP1918C

16-Ch audio cascade

Ch-9~Ch-16 Video Audio → NVP1918C → DSP Codec Mux

16-Ch

■ The compact size NVP1918C will minimize your DVR system size which will eventually meet the customers' needs.