

XS9922B: 4-Channel HD/SD Analog Video Decoder

XS9922B is a 4-channel analog composite video decoding chip that supports both HDcctv and CVBS protocols up to 1080P@30fps. XS9922B converts the received high-definition analog composite video signal through analog-to-digital conversion, video decoding, and 2D image processing into YUV format, which is then transmitted to the master chip via the MIPI CSI interface, enabling real-time preview and recording.

XS9922B supports down-stream audio data transmission over coaxial cable from remote cameras, and also supports bidirectional data communication with camera for remote camera control and firmware upgrades.

XS9922B features an embedded audio codec with 5-channel Line-In and 1-channel Line-Out interfaces.

Features

VI	<ul style="list-style-type: none"> ● 4-channel analog composite video decoding ● Support 720P25/30/50/60 and 1080P25/30 video format and CVBS format ● Support manually extended video format ● Embedded Equalizer (EQ) amplifier for best extended reach performance ● High speed 10-bit Analog-to-Digital (ADC) for video signal sampling ● Programmable clamp control
Video Decoder	<ul style="list-style-type: none"> ● Enhanced automatic format recognition for video signal identification ● Support AGC, ACC, White Peak ● Brightness, Saturation, Contrast, Hue, and Sharpness adjustment ● Advanced sync processor for best signal performance ● Automatic frequency deviation compensation to accurate color demodulation ● Integrated programmable high quality filter for Y/C separation
Audio	<ul style="list-style-type: none"> ● 5-channel analog audio Line-In / 3-channel Mic-In with PGA and digital processing ● 1-channel analog audio Line-Out with gain control ● Support down-stream audio data transmission from remote cameras ● Cascade-able up to 4 chips ● Support 1-channel I2S for audio record and 1-channel I2S for audio playback ● I2S support multiple channel output
VO	<ul style="list-style-type: none"> ● MIPI DPHY v1.1 compliant transmitter up to 4Lane ● Support MIPI CSI-2 YUV422 data format ● Up to 1.5Gbps/Lane

Features

	<ul style="list-style-type: none"> ● Support 1Lane/2Lane/4Lane mode ● Support P/N swap
Bidirectional Communication	<ul style="list-style-type: none"> ● Programmable up-stream data sending over cable ● Programmable down-stream data decoding ● Support firmware upgrades for remote cameras

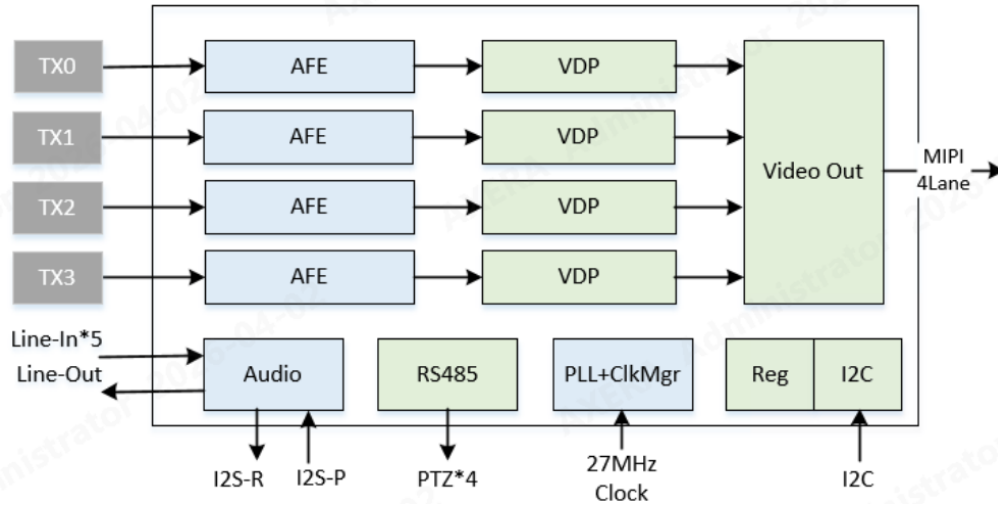
Peripherals

Video Interfaces	VI	● 4-channel analog video input
	VO	● 1-channel MIPI CSI 4Lane
Audio Interfaces	Line-In / Mic-In	● 5-channel Line-In / 3-channel Mic-In
	Line-Out	● 1-channel
	Cascade	● 1-channel
	I2S	<ul style="list-style-type: none"> ● 1-channel for audio record ● 1-channel for audio playback
PTZ		● 4-channel
Other Interfaces		● Interrupt interface for video loss
		● I2C
		● 27MHz crystal or clock input

Physical Specs

Operating Voltage	<ul style="list-style-type: none"> ● 1.1V core voltage ● 3.3V I/O voltage ● 2.5V, 3.3V and 1.1V analog voltage
Package	● 10 mm × 10 mm QFN88

Block Diagram



Application Solution

