

IQDEC05

Composite Decoder, Synchronizer with Noise Reduction – 12 bit

The IQDEC05 provides 12-bit composite decoding, synchronization and noise reduction in one compact module. Advanced adaptive 2-D decoding technology makes the IQDEC05 ideal for most analog to digital or, when paired with an upconverter, analog to HD applications. The IQDEC05 handles most composite analog signal formats including PAL, NTSC and SECAM. The full frame synchronizer with horizontal and vertical phasing controls allows the output to be timed to your house or studio reference. Proc. amp controls and a powerful built-in noise reducer complete the specification. Noise reduction is targeted at preserving the original content while eliminating the objectionable artifacts of analog working, and the algorithms are tuned to ensure optimum quality and lowest bit-rates if the signal is subsequently compressed.

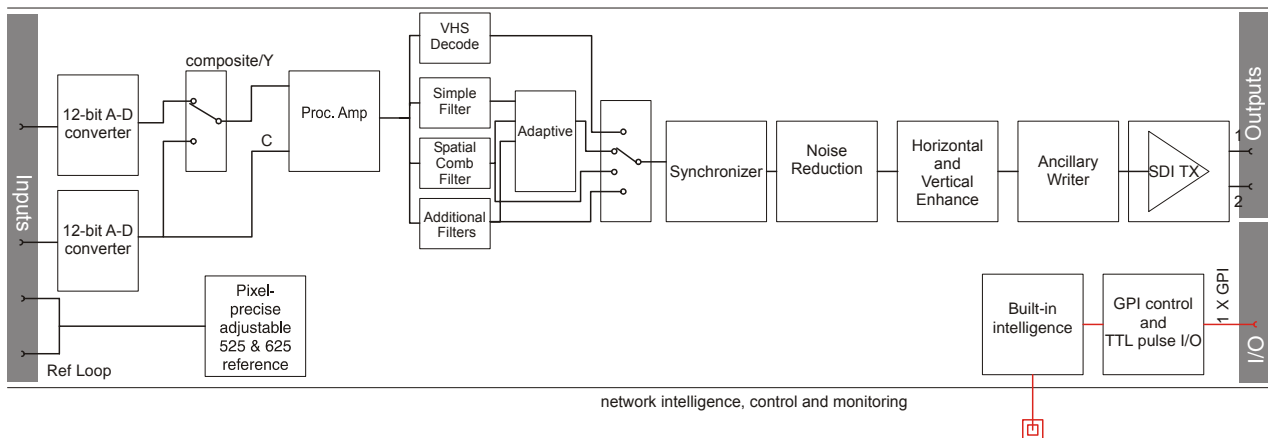
Does this module suit your application?

- 12-bit multi-standard decoder with frame synchronizer
- Adaptive line comb decoding
- Input standards – PAL*, NTSC*, NTSC-J, N4.43, PAL60, PALN*, PALM* or SECAM*
- *Auto detection of input standards
- Minimal delay through the unit - < 7 lines (lock to input, decoder and noise reducer in minimum delay mode)
- Motion adaptive recursive noise reducer with automatic noise floor measurement
- Horizontal and vertical enhancer
- VHS mode: Rugged sync and clock recovery ensures reliable operation for VHS playback and other noisy or unstable inputs

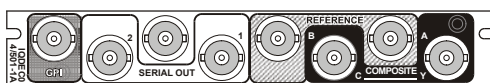
- Y/C and composite inputs available
- SECAM adaptive notch and chroma median filters
- Selectable default output on loss of input - Frame freeze, pattern or input pass
- Selectable VBI pass through (pass flat or blank for each VITS line)
- Adjustment of video gain, black level, chroma gain, NTSC hue, horizontal Y/C timing and picture position

Why should you choose this module?

- 12-bit decoding technology means superior picture quality with minimum MPEG bit usage

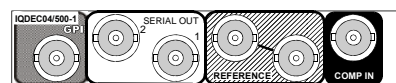


Order codes for IQH3A/1A enclosures



IQDEC0501-1A 12 bit decoder with synchronizer and noise reduction. 2 composite, 1 Y/C inputs, 2 SDI outputs

Order codes for other enclosures



IQDEC0500-1 12 bit decoder with synchronizer and noise reduction. 1 composite input, 2 SDI outputs

For more details on enclosure types please refer to the Frames/Enclosures section

IQDEC05

Composite Decoder, Synchronizer with Noise Reduction – 12 bit

Inputs & Outputs

Signal Inputs

Composite Video.....	2 via BNC connectors, isolated
Y-C	1 via BNC connectors
Standards.....	PAL/NTSC/NTSC-J/PAL-M /PAL-N/SECAM/N4.43
Reference.....	1 analog loop through via BNC connectors

Signal Outputs

Serial Digital.....	2 x SDI via BNC connectors
Standards.....	SMPTE 259M-C-1997, SMPTE 272M-A-1994

Card Edge & RollCall Controls

Control Interface

GPI/O.....	Closing contact input/output via BNC connector
------------	---

Card Edge Controls

None

Card Edge Indicators

CPU running/Power.....	Flashing = OK
Analog Video Present	Lost = Off, Good = On (Green)
Analog Video Error	Good = Off, Error = On (Yellow)
Reference Present	Lost = Off, Good = On (Green)
Reference Error	Good = Off, Error = On (Yellow)

Functions Available via RollCall Only

Video Controls

Input Select	Composite A / B, YC
Composite Input Standard...	Auto [PAL, NTSC, PALM, PALN, SECAM] / Manual [PAL, NTSC, NTSC-J, PALM, PALN, SECAM, N4.43]
Freeze	Off / On
Luma Gain.....	±6 dB
Chroma Gain.....	±6 dB
Black Level.....	±120 mV
NTSC Hue.....	±45°
Y/C Timing	+592 ns in 148 ns steps
Picture Position	±592 ns in 148 ns steps
Blanking	Left, right, top, bottom, color
Noise Reducer Mode & Noise Measurement	Auto / Manual noise measurement Normal / Minimum delay
Noise Threshold	Auto Bias [±7] / Manual [0 to 15]
Noise Reducer Strength	Luma [0 to 31], Chroma [0 to 31]
H Enhance	Off / [On – low, medium, high]
H Enhance Frequency	2.25 MHz or 3.375 MHz
V Enhance.....	Off / [On – low, medium, high]
Decoder Mode	Simple, Studio, VHS/Unstable
SECAM Notch.....	Adaptive/Controllable
SECAM Luma Bandwidth....	Wide/Medium/Narrow
SECAM Bottles.....	Auto/On/Off

Color Killer	Chroma ON / Chroma OFF / Auto [QAM standards: Chroma off = chroma mute + Y notch SECAM: Chroma off = chroma mute only]
Genlock H Phase.....	± ½ line in 1 pixel steps
Genlock V Phase	±262/312 lines in 1 line steps
Genlock Mode	Free-run / Lock to reference / Lock to input (minimum delay)
H Delay	1 line in 1 pixel steps
V Delay	524/624 lines in 1 line steps
Additional Video Delay	0, 1 or 2 frames of delay
NTSC lines 11 to 20 and 274 to 282	Blank, pass as VBI, decode VBI
NTSC line 22, 283 and 285	Blank, pass as data, pass as picture
NTSC line 21 and 284	Blank, pass as data, pass as picture, pass as closed captions
PAL lines 7 to 22 & 320 to 335	Blank, pass as VBI, decode VBI
PAL line 23	Blank, pass as WSS, pass as picture

Other Controls

Pattern Enable	Off / On
Pattern Select	Black / EBU Color Bars / 100% Color Bars / Ramp / Multi-Burst / Pulse & Bar / Animated Bar
Caption Enable	Off / On
Caption Generator	Programmable up to 19 characters
GPI Action	Memories 1 to 8 / Pattern / Freeze
GPI Polarity.....	High / Low
GPO Action	Input loss / Standard / Video delay
GPO Polarity.....	High / Low
User Memories	Name, clear, save and recall 8 user memories
Default Video Output.....	Pass Video / Freeze / Pattern / Pattern and Caption
Preset Unit.....	Returns all settings to default

IQDEC05

Composite Decoder, Synchronizer with Noise Reduction – 12 bit

Reporting * also Logged

Input Status	*Input present, *Input line standard, *Composite color standard
Input Error	One or more inputs have unselected line standard
Reference Status	*Ref present, *Ref standard
Reference Error	Standard different to selected input

RollTrack Output

Delay	Current video
Input State.....	Present / line standard
Reference State.....	Present / error

Specifications

Video Specifications

Video Internal Processing	4:2:2 with 10 bit data paths
Frequency Response (Studio Mode)	
Y	5.75 MHz \pm 0.1dB
PbPr.....	1.5 MHz -3dB
Frequency Response (VHS Mode)	
Y	5 MHz +0.2 dB, -0.5 dB
PbPr.....	1.5MHz -3dB typ
Composite Input Return Loss	Better than 35 dB to 5 MHz
Composite level/impedance	1 V pk-pk typ. Into 75 Ohm
Serial Output Level	800 mV \pm 5%
Output Overshoot.....	< 70 mV
Output Return Loss	Better than 15 dB to 270 MHz
Output Jitter	< 0.2 UI (with 10 Hz High pass filter selected on 601 monitor)
Reference Return Loss.....	Better than 35 dB to 5.8 MHz
Reference Input Level.....	1 Vp-p \pm 3 dB
Sync Level.....	0.3 V \pm 6 dB into 10k Ohms

Delay through the unit

Decoder Delay.....	<2 lines (Line Comb)
Synchronizer Delay.....	16 μ s (Lock to Input) 1 frame + 16 μ s (Lock to Reference)
Additional Processing Delay	<100 μ s
Noise Reducer Delay	<1 frame (Normal) <3 lines (Minimum Delay)
Total Minimum Delay	<7 lines
Total Maximum Delay	>4 frames (including optional video delay)

Power Consumption

Module Power Consumption	7.5 W
--------------------------	-------