yellobrik®

IDC 1411

LYNX | Centraal compatible

AI based instant dialogue cleaner, filter and amplifier

- Support for 1.5G, 3G, and 12G/4K SDI video Input
- Support for AES Input
- Support for optional 3G/12G fiber SFP
- Automatic Video Delay in tandem with Audio Delay
- Settings for Speech Gain, Background Gain, Compressor and more.
- Settings and routing can be applied via control software
- Remote Control via LynxCentraal or yelloGUI

The IDC 1411 is the hardware solution for enhancing speech based on the Audionamix® Instant Dialogue Cleaner Software Plugin. Application examples include paralell production of content for hearing impaired viewers or improved production of automated closed captions with clearer audio.

It is designed to process uncompressed SDI video formats via BNC or fiber, and AES based audio via BNC. SDI Output can be routed to fiber or BNC via the Lynx Centraal control software.

When connected to a control terminal via LynxCentraal or yelloGUI the IDC 1411 has additional audio filtering: The IDC setting itself, two sequential equalizers, and a compressor. Additionally each filter section has it's own gain settings.

The module is suitable for all SMPTE standard signals conforming to SMPTE 292M, 424M, and 2082 (1.5Gbit/s, 3Gbit/s, and 12Gbit/s)

Processing Delay

The timing of the SDI and AES Output will be locked to the SDI Input. Additional delay introduced by the audio processing will be compensated depending on the video refresh-rate resulting in the following input to output delay:

Video Standard	720p			1080i	1080psF	1080p			2160p	
Refresh Rate	30, 29, 25, 24, 23	50	59, 60	50, 59, 60	25, 29, 30	23, 24, 25, 30	50	59, 60	50	59, 60
Delay (frames)	2	3	4	2	2	2	3	4	3	4

SFP Options

Model	Description	Power	Sense
		min values	
SDI Fiber Transceiver Options			
OH-TR-12G-LC	SFP Fiber RX/TX - Singlemode, LC Connector - 10km*	-5dBm	-10dBm
OH-TR-12G-XXXX-LC XXXX=Wavelength	CWDM SFP Fiber RX/TX - Singlemode LC Conn. - 10km* 18 wavelengths according to ITU T G694.2 [1270nm - 1610nm]	-2dBm	-10dBm
SDI Fiber Transmitter Options			
OH-TX-12G-LC/ST	SFP Fiber TX - Singlemode, LC or ST Connector - 10km*	-5dBm	-
OH-TR-12G-XXXX-LC/ST XXXX=Wavelength	CWDM SFP Fiber TX - Singlemode LC or ST Conn. - 10km* - 18 Wavelengths according to ITU T G694.2 [1270nm - 1610nm]	-2dBm	-
SDI Fiber Receiver Options			
OH-RX-12G-LC/ST	SFP Fiber RX - Singlemode, LC or ST Connector	-	-10dBm

Technical Specifications

SDI Video	1 x SDI input on 75 Ohm BNC connectors 1 x SDI output on 75 Ohm BNC connectors		
	SMPTE ST 2082, SMPTE 424M, SMPTE 292M		
	Multi-standard operation from 1.5Gbit/s to 12Gbit/s		
	Multirate reclocking: 1.5Gbit/s - 3Gbit/s - 12Gbit/s		
	Automatic cable EQ	1.5Gbit/s	3Gbit/s / 12Gbit/s
		220m*	140m* / 80m*
		Belden 1694A	Belden 4794R
Fiber Optic	1 x fiber optic input, 1 x fiber optic output Duplex (singlemode) using LC/PC connection		
	SMPTE ST297-1:2015 , ST297-2:2017		
	Transmitter	Wavelength	See Optional SFP Table
		Optical power	See Optional SFP Table
	Receiver	Sensitivity	See Optional SFP Table
	Max. distance*	See Optional SFP Table	
AES Input	AES3-id on 75 Ohm BNC, 2 channels		
AES Output	AES3-id on 75 Ohm BNC, 2 channels		
Power	+12V DC @ 13W nominal - (supports 10 - 24V DC input range)		
Physical	Size (incl. connectors)	138mm x 90mm x 50mm (5.43" x 3.54" x 1.96")	
	Weight:	380g (13.4oz)	
Ambient	5 - 40°C (41 - 104°F) 90% Humidity (non condensing)		
Model #	IDC 1411	4250479328914	
Includes	Module, AC power supply		

*Distance is an approximation. Actual distances achieved can be longer or shorter depending on the type of cable. Determine link losses and perform optical budget calculations to ensure correct operation.

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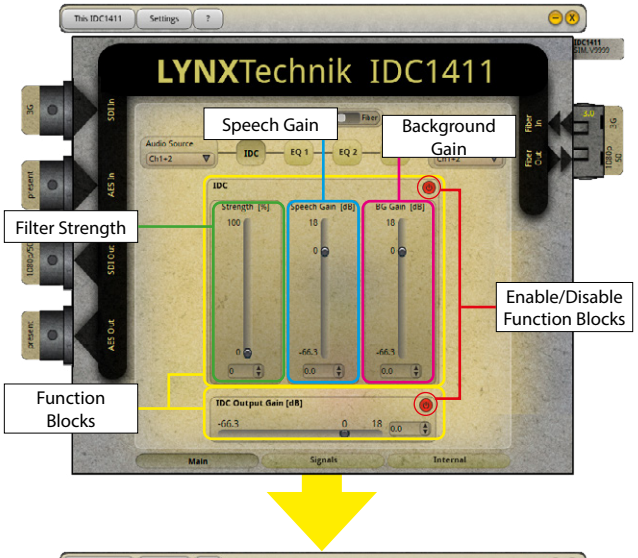
Audionamix® Instant Dialogue Cleaner

This audio filter is based on the plugin developed by Audionamix® to provide a hardware based solution that works independently of software in realtime with minimal delay.

Powered by a deep neural network that separates and preserves speech in real time you are able apply a gain (-66.3 – +18dB) to speech and background separately. This allows you to remove background interference without compromising integrity of the dialogue.
The Strength parameter allows you to slightly modify what is identified as speech and respectively as noise. Increasing the strength will cause the filter to be more "agressive", i.e. it will identify more content as noise.

Dialogue Cleaner can be enabled separately from the other functions like the Equalizers or Compressor.

If your audio signal needs to be increased or reduced after this process, a master gain is available as IDC Output Gain, which can be enabled separately.

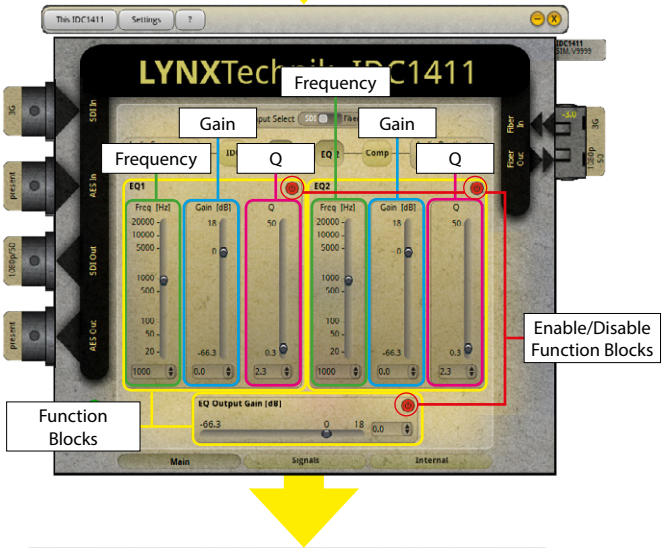


Equalizer Settings

Two fully parametric peak/notch equalizers are provided which are applied in series.
Both Equalizers provide parameters for the center frequency (20Hz – 20kHz), gain (-66.3 – +18 dB) and Q (0.3 – 50) which controls the bandwidth.

Equalizers can be enabled separately from the other functions like the Dialogue Cleaner or the Compressor.

If your audio signal needs to be increased or reduced after this process, a master gain is available as EQ Output Gain, which can be enabled separately.



Compressor Settings

A hard-knee, peak-sensing, stereo-linked audio compressor is provided with parameters for Threshold (-60 – 0dBFS), Ratio (1:1 – 30:1), Attack (0 - 200ms) and Release (5 – 5000ms).

Compressor can be enabled separately from the other functions like the Dialogue Cleaner or Equalizers.

If your audio signal needs to be increased or reduced after this process, a master gain is available as Comp Output Gain, which can be enabled separately.