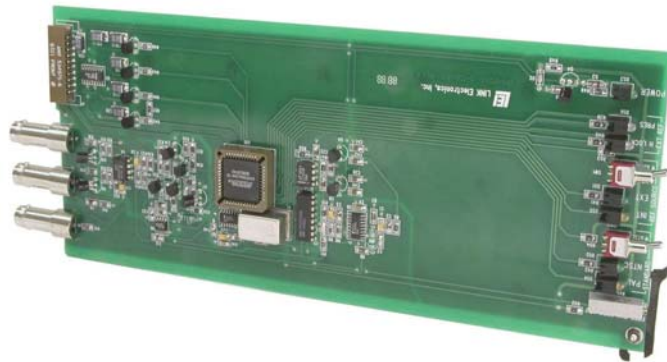


## DIGITAL SDI GEN-LOCK 812-OP/D



### For Future Generations

The 812-OP/D accepts digital blackburst to genlock to an external source. The genlock cell is slot number two. All other modules lock to the 812-OP/D. Whether module 812-OP/C or 812-OP/D, all other modules lock to whatever in cell number two. The number two module will produce the necessary lock pulses for all of the other modules in the chassis. The remaining four cell will accept a digital or analog test of black module.

The 812-OP/D digital genlock module takes in a stable digital black burst signal and genlocks to it. This is accomplished by stripping horizontal sync off of the incoming black burst signal and doing a phase and frequency lock to a very stable 27 MHz VCXO. The phase-lock-loop has a LED indicator that signals green when horizontal lock is obtained and signals red when no lock is obtained. The 27 MHz signal, clocks a complex programmable logic device that generates all the necessary pulses that are needed for the rest of the modules. The pulses are buffered and sent down the mother board buss.

This complex programmable logic device also takes in stripped vertical sync and field identification pulses and resets appropriate counters within the device. This develops output pulses that are in proper time and phase with incoming video.

The PCO-818 automatic pulse change-over modules operate as independent or synchronized operation. Two PCO-818 change-over chassis may be interlinked to cause all modules to switch should a failure occur in the master generator.

The 812 OP/D digital genlock module also has a video presence detector that controls if the module is in genlock or free-run. A bicolor LED is used for a video presence indicator, whenever video is present the LED turns green and whenever there is no video present the LED turns red. If there is no video to the module, it then automatically switches over to a free-run frequency condition and a front panel control is used to adjust the dc volts of the VCXO. This then changes the frequency of the 27 MHz oscillator.

Reference source selection can be accomplished in three ways:

1. No video, the module would automatically switch over to its internal reference source.
2. Manually switching the front panel switch AUTO/INT over to its internal reference source.
3. Applying video and having the AUTO/INT switch paced in the AUTO mode. The module is then running in proper genlock mode.

Whenever, the 812 OP/D genlock module is placed in its INT, internal reference source a front panel yellow LED indicator lights up and the module is free-running on its internal oscillator. Whenever, the 812 OP/C genlock module.

# 812-OP/D GENLOCK TO SDI BLACKBURST

## SPECIFICATIONS

### INPUT VIDEO:

Input Coupling ..... Single-ended AC coupled  
Video Level ..... 800mV +/- 10%  
Impedance ..... 75 Ohms +/- 1% source terminated

### OUTPUT VIDEO ON BNC #2 and #3:

Impedance ..... 75 Ohms +/- 1% source terminated  
Number of Outputs ..... 2  
Standards ..... SMPTE: 259M-C; 270Mb/s, 525/625 Component  
Connector ..... BNC  
Return Loss ..... >25dB  
Signal Level ..... 800mV +/- 10%  
DC Offset ..... 0V +/- 0.1V  
Rise Time ..... 600pS (20 to 80% Amplitude)  
Fall Time ..... 500pS (20 to 80% Amplitude)  
Low frequency jitter ..... 0.08 unit intervals  
Alignment jitter ..... 0.16 unit intervals

### ENVIRONMENTAL:

Temperature ..... 0 to 50 C ambient  
Humidity ..... 10% to 90% non-condensing  
Power ..... 3.8 Watts

### MECHANICAL:

Length ..... 10.0"  
Width ..... 4.27"  
Weight ..... 5.5 oz

### FRONT PANEL LED INDICATORS:

Power ..... Green/ power is on  
Video presence ..... Green/video present Red/no video  
H-Lock ..... Green/horizontal is locked to incoming H/Red horizontal is unlocked  
EXT ..... Green/module is in AUTO mode (SW2 placed in AUTO mode)  
INT ..... Yellow/module is in INT mode (SW2 placed in INT.mode)  
NTSC ..... Green/SW1 is selecting NTSC  
PAL ..... Yellow/SW1 is selecting PAL

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