

PHOENIX Full Field Time Base Corrector



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PHOENIX is a professional multi-standard Time Base Corrector (TBC) designed to reconstruct video signals timing and level.

The time base correction is performed by a high performance digital phase locked loop which allows the correction of severe input video faults.

Video processor is fully digital, increasing accuracy and reliability. The optional digital Adapting Comb Filter can be used to get optimal separation of Luminance and Chrominance components. Also optional, a programmable noise reducer helps to improve the quality of the input source.

The internal sync generator is highly stable and delivers ITU-R (former CCIR) 624-3 compliant signals.

Video source can be switched between 2 Inputs which may be configured as composite (CCVS) or Y/C. Switching, as also happens with the internal bar and ramp generator, may be automatic or manual.

All functions can be remote controlled through **M-LINK** a Magna Scientific custom designed network.

Features:

- PAL B, PAL N, NTSC and PAL M (menu selected).
- Capacity for simultaneous Transcoding.
- Full Frame operation.
- Wide horizontal correction window.
- Field or Frame Freezing.
- High stability internal sync generator with accurate SC/H.
- Very low jitter wide range digital Gen-Lock.
- Digital Video Processor with wide range Hue, Set-Up, Chrominance and Luminance controls.
- Burst and Sync regeneration.
- Bar and Ramp generator.
- Two Composite Video or Y/C inputs which can be switched in the vertical interval.
- Two composite Video Outputs.
- One Y/C Output.
- Easy menu driven operation and programming with all user's options stored in non-volatile memory.
- Automatic power fail recovery.
- Remote control capability.

Optionals:

- 3-line Adaptive Digital Comb Filter, operates even with non SC/H stable sources.
- Programmable Digital Adaptive Noise Reduction subsystem.
- VBI pass through.



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Technical Specifications:

INPUT STAGE		DIGITAL PROCESS	
<ul style="list-style-type: none"> • Main Video • Auxiliar Video • Input impedance • Sync threshold • Burst threshold 	<ul style="list-style-type: none"> 1, CCVS 1, Y/C 1, CCVS <p>75 Ω (internally terminated)</p> <ul style="list-style-type: none"> 150 mV 80 mV 	ITU-R 601 FULLY COMPLIANT <ul style="list-style-type: none"> • Sampling frequency: <ul style="list-style-type: none"> Luminance 13.5 MHz Chrominance 6.75 MHz • Luminance resolution 8 bit • Chrominance resolution 8 bit • Architecture 4 : 2 : 2 • Memory capacity 3 fields (1.2 MB) 	
OUTPUT AND SYNC GENERATOR STAGES		CONTROL RANGE	
ITU-R 624-3 FULLY COMPLIANT <ul style="list-style-type: none"> • Video outputs: <ul style="list-style-type: none"> 2, CCVS 1, Y/C • White Clipping Levels: <ul style="list-style-type: none"> PAL B and PAL N 700 mV PAL M and NTSC 714 mV • Sync Levels: <ul style="list-style-type: none"> PAL B and PAL N 300 mV PAL M and NTSC 286 mV • Sync Edges: <ul style="list-style-type: none"> PAL B and PAL N 200 nS PAL M and NTSC 250 nS • Subcarrier Frequency: <ul style="list-style-type: none"> PAL B 4.43361875 MHz PAL N 3.58205625 MHz PAL M 3.57561149 MHz NTSC 3.579545 MHz • SC/H: <ul style="list-style-type: none"> 0 \pm 5° • PAL Sequence 8 fields • NTSC Sequence 4 fields • Gen Lock Inputs 2, Loop Through • Horizontal phase range 20 μS • Horizontal phase steps 74 nS • Subcarrier phase range 360° • Subcarrier phase steps 1° 		<ul style="list-style-type: none"> • Luminance 0 to 200% • Chrominance 0 to 200% • Setup \pm 200 mV • Hue (NTSC input) \pm 40° 	
		PERFORMANCE	
		<ul style="list-style-type: none"> • Frequency response <ul style="list-style-type: none"> CCVS 3.8 MHz CCVS (Comb filter) 5.5 MHz Y/C 5.5 MHz • Luma-Chroma delay \leq 3 nS • Differential gain \leq 2% • Differential phase \leq 2° • S/N Ratio (weighted) \geq 72 dB • S/N Ratio (unweighted) \geq 60 dB • Noise Reducing up to 12 dB in 10 steps 	
		GENERAL	
		<ul style="list-style-type: none"> • Mains Power 80 to 240 V 47 to 440 Hz • Consumption \leq 15 W • Enclosure 1 std. rack unit • Weight aprox. 4.6 lbs. 	

Specifications and designs are subject to change without notice.



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