

# **ARGOS BLEAK**

**OPERATIONS MANUAL for FIRMWARE 1.0  
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## **SETUP**

Your ARGOS BLEAK comes fully calibrated from the factory. If it requires further calibration, follow the CALIBRATION instructions that follow.

You must set up and scale your oscillators to work with the ARGOS acting as the master CV source for best results. With nothing plugged into the Argos Bleak, connect the first 2 CV outputs to your various oscillators. Set all of the OCTAVE controls on Argos Bleak to center position.

## **ENTERING TEST MODE**

As you switch your modular system on, hold down SCALE button. The module should light up with all buttons illuminated. You can press the illuminated buttons to change the pattern of lights and test the LEDs. When in test mode, the output voltages will be as follows: OUTPUT 1 - precise copy of INPUT A. OUTPUT 2 - precise copy of INPUT B . OUTPUT 3 - precisely 7.0V. OUTPUT 4 - precisely 8.0V.

## **CALIBRATING ARGOS BLEAK ITSELF**

Enter test mode. Measure the voltage at output 4. Adjust the "OUTSCALE" trimmer on the back of the module so that the measured voltage is exactly 8.0V. Next, plug output 3 into Pitch CV input A. Measure the voltage at output 1. Turn the "INSCALE" trimmer until you measure precisely 7.0V. Next, re-patch output 3 to Pitch CV input B. Measure the voltage at output 2. Adjust the "IN2SCALE" trimmer until the output measures precisely 7.0V.

## **CALIBRATING IME DIGITAL OSCILLATORS**

Industrial Music Electronics oscillators such as the Hertz Donut or Piston Honda are already scaled to perform well with Argos Bleak. To calibrate, first connect the oscillator to output 1 with nothing connected to the Argos pitch input turn the coarse and fine tune controls all the way down to zero, and adjust the waveforms on each oscillator to simple sine or square waves. Adjust the fine tune control on the oscillators so that the measured frequency is 16.35hz (C0). Now, connect OUTPUT 3 to the first oscillator's CV in (Output 3 gives a 7V output in test mode.) Measure the oscillator frequency, and adjust the oscillator's scaling trimmer so that the measured frequency is 2092.8hz (C7). Repeat for the other IME oscillators in your system.

## **CALIBRATING ANALOG OSCILLATORS, or OSCILLATORS FROM OTHER MANUFACTURERS**

Many analog oscillators prefer a "Top-down" adjustment procedure. We will use an Industrial Music Electronics Polivoks VCG as an example. Enter test mode and make sure nothing's plugged into the Argos Bleak CV inputs. Adjust your oscillator's octave, coarse, and fine tune controls to zero.

1. Insert the OUTPUT 3 voltage into the oscillator's CV input. Adjust the octave, coarse and fine tune controls on the oscillator so that you get 2092.7hz at the output, in a way that keeps the knobs near the zero position (for convenience of meeting Argos' standard pitch when repatching).

2. Plug the OUTPUT 1 into the oscillator's CV (with nothing patched to the Argos pitch CV inputs). Adjust the oscillator's scale trimmer so that the output frequency is near 16.35hz. Repeat steps 1 and 2 until the measurements are consistent and repeatable. You may now exit test mode.

## **EXITING TEST MODE**

Press the black rotary encoder button to exit test mode and begin normal operation.

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## OVERVIEW OF CONTROLS - CHANNEL

**OCTAVE KNOB** - This control adds or subtracts precise 1V increments to the channel's output signal. When the knob is at center position, no voltage will be added. When turned counterclockwise, the octaves will be subtracted from the signal. When turned clockwise, they will be added.

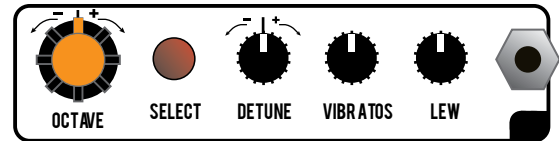
**SELECTOR BUTTON** - This will "highlight" the channel in the display, allowing you to edit the channel's chord/semitone and various global settings using the rotary encoder. This button will also light red when the output CV is clipping out of range of 0-8V.

**DETUNE** - This is a "fine tune" control for your oscillator. Center position is zero.

**VIBRATO** - This controls the mix of the Vibrato Generator's signal into the channel's CV output. Set this to the desired level, and keep the master vibrato level at zero until you desire vibrato. The zero position of this control is at the fully counterclockwise position.

**SLEW** - This will add greater amounts of slew limiting to the output signal, giving a "glide" or "portamento" effect. You may program each channel to route the slew before the quantizer, for "arpeggio" or "glissando" effects. The zero position of this control is at the fully counterclockwise position.

**OUTPUT JACK** - This jack outputs the processed CV for the channel.



## VIBRATO GENERATOR

**AMOUNT** - This large knob is the master control for the vibrato send. It will distribute the vibrato oscillator's signal to all channels with a positive amount set on their small black VIBRATO controls.

**SPEED** - This adjusts the frequency of the vibrato oscillator.

**DESTINATION SELECTOR** - This button chooses the destination of the external CV signal. GREEN routes it to the vibrato AMOUNT control. ORANGE routes it to the SPEED control. When in the RED mode, the CV will rotate the semitone data selection across the 4 outputs, with the attenuator acting as a manual control.

**CV ATTENUATOR** - This "Attenuverter" controls the amount of the incoming CV signal before it is routed to the parameter.

**CV input** - insert your external control signal here. We suggest using an envelope or pressure pad signal for controlling the vibrato AMOUNT in a conventional way.

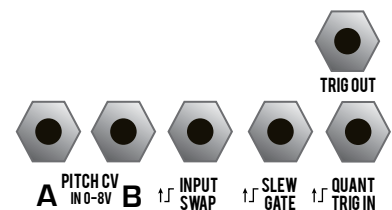
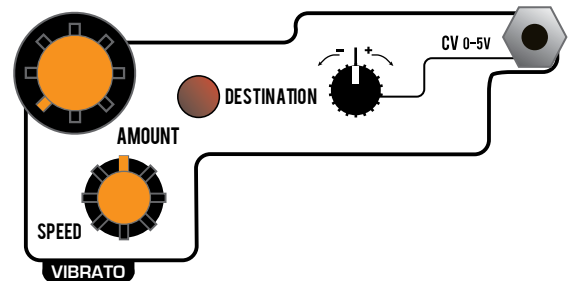
## INPUTS AND OUTPUTS

**CV INPUTS A,B** - These calibrated 1V/octave CV inputs are routed to the outputs in any way you choose. When nothing is patched to input B, it is normalled to Input A.

**INPUT SWAP** - When the rising edge of a gate signal is detected at this input, it will change the input selection settings per channel: A will become B, B will become A, A+B will become A-B, and so on. You can individually program each channel to ignore this input.

**SLEW GATE** - When nothing is patched into this input, the slew will function as normal, controlled only by the channel's SLEW knob. When a cable is patched in, the slew will be disabled unless a positive GATE signal is present. You can individually program each channel to ignore this input.

**QUANTIZER TRIGGER IN** - This is a track-and-hold input. When nothing is patched in, the quantizer will trigger normally.



With a cable patched in, the quantizer will not update unless a positive signal is present. It works best by receiving trigger pulses from a sequencer, but it also works well as a track-and-hold.

**QUANTIZER TRIGGER OUT** - When Channel 1's quantizer picks a new note based on the incoming voltage, a trigger event will fire from this jack. It has no effect if channel 1's quantizer is disabled.

**SCALE SELECTION** - Press this button to enter SCALE mode. The button will light green and the selected scale will be shown on the display. While green, you can select the type of scale using the rotary encoder. Note that many scales are duplicated across various root and mode combinations, but all possibilities are represented for your convenience.

#### SCALE TYPES, AS SHOWN ON DISPLAY

— - no quantization on outputs  
12 - 12 tone equal-tempered  
l-l - major scale  
l-l. - minor scale  
d - dorian mode  
L - lydian mode  
P - phrygian mode



Y - mixolydian mode  
l - locrian mode  
5- roots and fifths  
3 - major triad  
3. minor triad  
6 - major sixth  
7 - major seventh  
6. minor sixth  
7. minor seventh

Press the SCALE button again to turn it red. Now, the rotary encoder selects the scale ROOT, from C all the way up to B.

**CHORD SELECTION** - Argos Bleak allows you to define 32 preset "chords" which are pre-quantizer semitone offsets for each channel. For convenience, we have filled the memory with standard chord sequences, with preset 0 (and 17) being simple unisons. You may move between these presets by pressing the CHORD button and turning the rotary encoder, or putting a CV into the CHORD input. Any modifications you make to the semitone programming are immediately reflected in the memory, but you must manually save the data if you want it to remain after power-down. To do this, hold the rotary encoder button down and press the CHORD button.

The presets are organized into two banks of 16 Chords accessible at any time. To switch banks, press the CHORD key again to turn it RED, then presets 17-32 will be available. **IMPORTANT** - Each preset bank has its own global settings (scale, input selection, slew routing, etc.) This way, you can have two easily accessible setups stored in Argos Bleak.

**CHANNEL PARAMETER PROGRAMMING** - When you highlight a channel using the selector button, it will light up GREEN and show the semitone offset in the display. Modify this offset by turning the rotary encoder. You can program positive or negative offsets this way. You can also press the rotary encoder button to disable quantizing for that channel (shown as a "." in the display.)

**INPUT SELECTION** - Press the button again to turn it ORANGE. A letter will show in the display. This is the selected input. You can select either input A or B, or a combination by turning the rotary encoder. A+B is represented by "AB" in the display, or "A.B" for A-B. Take care to not clip the output when combining two full-scale control voltages this way. The combination modes are great for accurately transposing a sequence. The dot at the right corner of the display (as in "A.") means that the channel will respond to the INPUT SWAP gate input. To disable this, press the rotary encoder button to make the dot go away.

**SLEW ROUTING** - Press the button a third time to enter the slew routing menu. It will say "S.0" or "S.1". 0 is the normal, post-quantizer slew routing. Changing it to 1 with the rotary encoder will route the slew before the quantizer. The dot in the lower right corner, if present, shows that the channel's slew limiter will respond to the SLEW GATE input. To toggle this, press the rotary encoder button.

## OTHER FEATURES

**VERSION NUMBER DISPLAY** - Hold the Rotary Encoder button and press the DESTINATION button. The version number will show in the display.

**VIBRATO PHASE SELECTION** - Normally all four channel vibratos are in phase with each other. To offset them in various ways, Hold the encoder button and press the SCALE button to bring up the hidden menu. It should say "u.0". Use the rotary encoder to change to 2 other phase selections. This parameter can be stored as part of each bank preset.