

# APHEX®

## CX 500™

LOGIC ASSISTED GATE &  
EASY RIDER® COMPRESSOR  
500 SERIES MODULE



## OWNER'S MANUAL



a DWM ENTERTAINMENT company

## SAFETY DECLARATIONS



**WARNING:** Do not place objects containing liquid on this unit as it is not designed to protect against spillage. Do not expose this unit to dripping or splashing of liquids as the unit is not designed to protect against these occurrences.

**WARNING:** The CX 500 has been tested and meets the FCC, CE and European Union rules, regulations, and guidelines for use. Do not attempt to modify or change the CX 500, as this could void the regulatory compliance, which would place you at risk of losing your authority to operate the CX 500.

**WARNING:** Do not place objects on top of this unit if they weigh more than 10 pounds.



## SAFETY DECLARATIONS

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.



## TABLE OF CONTENTS

<b>1.0 INSTALLATION</b>	5
<b>2.0 INTRODUCTION</b>	6
<b>3.0 GATE FUNCTIONS</b>	6
3.1 Threshold Control	6
3.2 Attack Control	6
3.3 Hold Control	7
3.4 Release Control	7
3.5 Depth Control	7
3.6 Gate On/Off Button	7
<b>4.0 COMPRESSOR FUNCTIONS</b>	8
4.1 Threshold Control	9
4.2 Speed Control	9
4.3 Output Control	9
4.4 Compressor On/Off Button	9
<b>5.0 METERING</b>	9
5.1 GR/PK Switch	9
<b>6.0 SERVICE &amp; WARRANTY</b>	10
6.1 Limited Warranty	10
6.2 Service Information	11
<b>7.0 SPECIFICATIONS</b>	11

## 1.0 INSTALLATION

1. Turn off and unplug your 500 series rack frame. Inspect the card slot you intend to use to make sure that it is clean and free of any debris.
2. Before removing your CX 500 from its box, discharge any static electricity buildup you may have by touching your 500 series rack.
3. Pull your CX 500 module out of its box and carefully slide it into place in the designated opening. Sight down the back of the module (use a flashlight if necessary) and ensure the card edge connector is aligned to seat into the card slot of the frame.
4. Firmly and evenly push the CX 500 module into place until it is positively seated in the card slot.
5. Use the 2 thumb screws in the module to mount the CX 500 front panel to the 500 series rack. These screws have a pretty tight fit; please be careful not to cross thread.
6. Plug your 500 series rack back into the AC source and power up your rack. Your CX 500 will automatically power up with your 500 series rack.



## 2.0 INTRODUCTION

Many other products combine a compressor and gate, but there are problems making them work together. That's because the compressor's release occurs during the gate's closure. The gate is trying to reduce the signal level while the compressor is trying to raise it. The compressor's gain release counter-effects (fights against) the gate.

The Aphex Easyrider® Compressor is gain locked whenever the Logic-Assisted Gate activates. This holds the compression gain constant until the gate again opens, when compression is instantly returned to active duty and continues seamlessly. Gating and Compression happily work together! Even if the GATE DEPTH is set for zero, the compression gate will operate as indicated by the threshold LED LOGIC ASSISTED GATE (Patent #5,334,947)

The CX 500 features the award-winning Aphex Logic-Assisted Gate technology that has been so widely acclaimed since its first introduction with the Aphex Model 612 Expander/Gate. It never hesitates or chatters. Once triggered, even by a microscopic transient, it progresses fully through the attack, hold, and release sequence.

## 3.0 GATE FUNCTIONS

### 3.1 THRESHOLD

Range: -60 to +20dB. Adjust to reliably open the gate (let sound through) but reject unwanted background noise. The Gate can be effectively turned off by turning the threshold all the way to -60dB.

### 3.2 ATTACK

Range: 4 $\mu$ S to 100mS. Set to the fastest setting that does not cause a noticeable click when the gate opens. Slower settings may be useful for effects.

### 3.3 HOLD

Range: 5mS to 500mS. Balance HOLD with RELEASE to obtain the best gating effect. Usually a longer hold time allows you to use a shorter release time. This can help when gating repetitive sounds like drums. The gate can be held long enough to transition the beats, and then a faster release can gate out the rumble and noise more effectively. The HOLD setting should always be at least equal to the ATTACK setting to insure the logic properly assists the attack function.

### 3.4 RELEASE

Range: 100mS to 1S. Causes the gate to close (stop audio) very abruptly to very softly. This should be set to bring the best gating effect to the kind of sound you have.

### 3.5 DEPTH

Range: 2 to 80dB. Sets the maximum amount of gain reduction the gate will generate. At 80dB, the gate is virtually a switch. The audio will gate completely off. Less depth will allow the gate to reduce the signal but not necessarily cut it off. The best setting is one that reduces the unwanted noises just enough to be useful. Deep gating can sometimes be apparently extreme, making the sound seem chopped, especially with high background noise levels when the track is naked. Gated tracks added to a mix will have their gating effects masked by other tracks, allowing deeper gating to be used in many cases

### 3.6 GATE ON/OFF BUTTON

Pressing the Gate button in will light the button and the Gate function will be active. Pushing it again deactivate the Gate function and the button will not light.



## 4.0 COMPRESSOR FUNCTIONS



### 4.1 THRESHOLD

When the input signal level exceeds the threshold setting, the compressor engages. Turning the knob counterclockwise lowers the threshold so that compression begins at a lower input level. Turning the knob clockwise raises the threshold so that compression only happens at higher input levels. The threshold can be set from -20dBu to +30 dBu.

### 4.2 SPEED

The Easyrider Compressor has a complex set of time constants that adapt to the sound wave characteristics. The base time constant can be set by the user with the Speed control. This can be looked at like the release time control on other compressor/limiters. With faster speed (shorter release time) the audio will be more aggressively compressed and you will hear the sound becoming busier and fatter. Regardless of the Speed setting, the automatic time constants are working, just faster or slower.

### 4.3 OUTPUT KNOB

The Output level knob determines the overall output level of the module and drives the VU meter.

### 4.4 COMPRESSOR ON/OFF BUTTON

This button turns the compressor function on and off. When on the button will light up.

## 5.0 METERING

### 5.1 GR/PK SWITCH

When this switch is set to GR (Gain Reduction) the two-color bargraph indicates both compression and gating. Compression is shown as a green down-going bar while gating drives one red bar downwards. When the switch is set to PK the meter becomes an output PEAK meter. The meter will indicate output levels from -16dBu to +21dBu.

## 6.0 SERVICE & WARRANTY

### 6.1 LIMITED WARRANTY

#### PERIOD

Two years from date of purchase.

#### SCOPE

All defects in workmanship and materials. The following are not covered:

- a. Voltage conversions.
- b. Units on which the serial number has been defaced, modified, or removed
- c. Damage or deterioration:
  1. Resulting from installation and/or removal of the unit.
  2. Resulting from accident, misuse, abuse, neglect, unauthorized product modification or failure to follow instructions contained in the User's Manual.
  3. Resulting from repair or attempted repair by anyone not authorized by Aphex.
  4. Occurring from shipping (claims must be presented to shipper).

#### WHO IS PROTECTED

This warranty will be enforceable by the original purchaser and by any subsequent owner(s) during the warranty period, so long as a copy of the original Bill of Sale is submitted whenever warranty service is required.

#### WHAT WE WILL PAY FOR

We will pay for all labor and material expenses for covered items. We will pay return shipping charges if the repairs are covered by the warranty.

#### LIMITATION OF WARRANTY

No warranty is made, either expressed or implied, as to the merchantability and fitness for any particular purpose. Any and all warranties are limited to the duration of the warranty stated above.

#### EXCLUSION OF CERTAIN DAMAGES

Aphex's liability for any defective unit is limited to the repair or replacement of said unit, at our option, and shall not include damages of any other kind, whether incidental, consequential, or otherwise.

Some States do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

## 6.2 SERVICE INFORMATION

If it becomes necessary to return this unit for repair, you must first contact Aphex for a Return Authorization (RMA number), which will need to be included with your shipment for proper identification. If available, repack this unit in its original carton and packing material. Otherwise, pack the equipment in a strong carton containing at least 2 inches of padding on all sides. Be sure the unit cannot shift around inside the carton. Include a letter explaining the symptoms and/or defect(s). Be sure to reference the RMA number in your letter and mark the RMA number on the outside of the carton. If you believe the problem should be covered under the terms of the warranty, you must also include proof of purchase. Insure your shipment and send it to APHEX at the address provided with the RMA.

## 7.0 SPECIFICATIONS

#### OPERATING LEVEL

Switch Setting: +4dBu

#### INPUT

Type:	Transformerless, active balanced
Impedance:	40K $\Omega$
Unbalanced:	20K $\Omega$
Nominal Level: Maximum	+4dBu
Level:	+24dBu
CMRR:	>40dB

#### OUTPUT

Impedance:	110 $\Omega$
Nominal Level:	+4dBu
Maximum Level:	+24dBu Unloaded

#### AUDIO

Frequency Response:	+0.5dB 10Hz-38KHz
Dynamic Range:	120dB
THD:	10Hz - 22kHz @ max output .0003%
IMD:	10Hz - 22kHz 0 max output, .0007%

#### CONNECTOR PINOUT

1	CHASSIS GROUND
2	OUTPUT + (+4 LEVEL)
3	(unused)
4	OUTPUT - (+4 LEVEL)
5	COMMON
6	LINK
7	(unused)
8	INPUT- (+4 LEVEL)
9	(unused)
10	INPUT+ (+4 LEVEL)
11	(unused)
12	+16VDC
13	POWER SUPPLY COMMON
14	-16VDC
15	(unused)

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