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7 Attorneys for Plaintiff
 8 CLOUD MICROPHONES, LLC

9 UNITED STATES DISTRICT COURT
 10 CENTRAL DISTRICT OF CALIFORNIA
 11 SOUTHERN DIVISION

13 CLOUD MICROPHONES, LLC,
 14 Plaintiff,
 15 v.
 16 CATHEDRAL PIPES
 17 MICROPHONES,
 18 Defendant.

Case No. 8:19-CV-737

**COMPLAINT FOR PATENT
 INFRINGEMENT
 DEMAND FOR JURY TRIAL**

19 Plaintiff Cloud Microphones, LLC (“Plaintiff” or “Cloud”) brings this
 20 Complaint against defendant Cathedral Pipes Microphones (“Defendant” or
 21 “Cathedral Pipes”) and alleges as follows:

THE PARTIES

23 1. Plaintiff Cloud is an Arizona limited liability company, having its
 24 principal place of business at 45 W Ventura Street, Tucson AZ 85705.

25 2. On information and belief, Defendant Cathedral Pipes is a privately held
 26 company, having a principal place of business at 20322 Sea Circle, Huntington
 27 Beach, CA 92646.
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1 **JURISDICTION AND VENUE**

2 3. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331
3 and 1338(a) because this action arises under the Patent Laws of the United States, 35
4 U.S.C. §§ 101 *et seq.*

5 4. On information and belief, Defendant Cathedral Pipes is subject to this
6 Court’s specific and general personal jurisdiction pursuant to due process and/or the
7 California Long Arm Statute (CCP §410.10), due at least to having their principal
8 place of business in this forum and conducting substantial business in this forum,
9 including (i) having solicited business in the State of California, transacted business
10 within the State of California and attempted to derive financial benefit from residents
11 of the State of California, including benefits directly related to the instant patent
12 infringement causes of action set forth herein; (ii) having placed its products and
13 services into the stream of commerce throughout the United States and having been
14 actively engaged in transacting business in California and in this District; and (iii)
15 either alone or in conjunction with others, having committed acts of infringement
16 within California and in this District.

17 5. Venue is proper in this federal district pursuant to 28 U.S.C. §§ 1391(b)–
18 (d) and 1400(b) in that Defendant’s principal place of business is in this District, and
19 Defendant is subject to personal jurisdiction in this District, and therefore is deemed
20 to reside in this District for purposes of venue. Upon information and belief, a
21 substantial part of the events giving rise to Cloud’s claims occurred in this District,
22 including but not limited to the Defendant doing business in this District, has
23 committing acts of infringement in this District, and continuing to commit acts of
24 infringement in this District, entitling Cloud Microphones to relief.

25 **COUNT I: INFRINGEMENT OF U.S. PATENT NO. 9,167,327**

26 6. Plaintiff repeats and re-alleges each and every allegation of paragraphs
27 1-5 as though fully set forth herein.

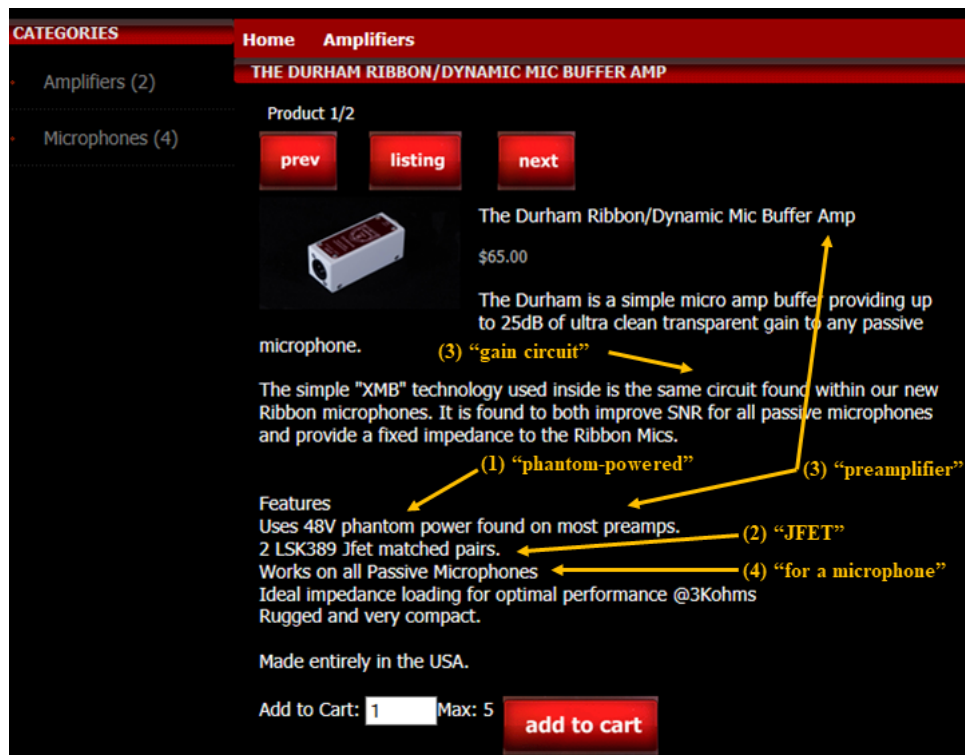
28 7. On October 20, 2015, the United States Patent and Trademark Office

1 (“USPTO”) duly and legally issued United States Patent 9,167,327 (“the ’327
 2 Patent”) entitled “Microphone with Rounded Magnet Motor Assembly, Backwave
 3 Chamber, and Phantom Powered JFET Circuit.” Cloud holds all rights, title and
 4 interest in and to the ’327 Patent, yet Cathedral Pipes knowingly, actively, and
 5 lucratively practices the patent.

6 8. Upon information and belief, Cathedral Pipes has infringed directly and
 7 continues to infringe directly (literally and/or under the doctrine of equivalents) the
 8 ’327 Patent. The infringing acts include, but are not limited to, the manufacture, use,
 9 sale, and/or offer for sale of products and/or methods encompassed by Claims 1 and
 10 2 of the ’327 Patent.

11 9. Cathedral Pipes’ infringing product, the Durham Mic Booster Preamp
 12 (hereinafter referred to as the “Durham”) practices each and every limitation of Claim
 13 1 and its dependent Claim 2 of the ’327 Patent.

14 10. The Durham includes a phantom-powered JFET preamplifier gain
 15 circuit for a microphone. An example of this can be found at Defendant’s website
 16 <http://www.cathedralpipes.com/zen->



1 cart/index.php?main_page=product_info&products_id=208 as shown below, labeled
 2 in accordance with the claim language.

3 11. The Durham includes a first JFET with its gate terminal operatively
 4 connected to a positive signal input terminal, wherein the first JFET is operatively
 5 connected to a second JFET in cascode having a positive signal output terminal for
 6 the phantom-powered JFET preamplifier gain circuit. An example of this can be
 7 found from the datasheet and the teardown photographs below paragraph 12.

8 12. The Durham includes a third JFET with its gate terminal operatively
 9 connected to a negative signal input terminal, wherein the third JFET is operatively
 10 connected to a fourth JFET in cascode having a negative signal output terminal for
 11 the phantom-powered JFET preamplifier gain circuit. An example of this can be
 12 found from the diagrammed datasheet and teardown photographs below.

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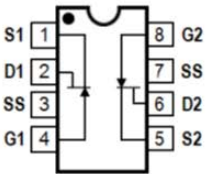
14 **LINEAR SYSTEMS** **LSK389 Series**

Ultra Low Noise Monolithic Dual N-Channel JFET Amplifier

LSK389 A, B, C & D


An excerpt from LSK389 Datasheet. Each LSK389 chip contains two (i.e. dual) JFETs, and two LSK389 chips were integrated into the Durham for a total of four JFETs

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20 **SOIC 8L**
Top View



Benefits

- Unique Monolithic Dual Design Construction of Interleaving Both JFETs on the Same Piece of Silicon
- Excellent Matching and Thermal Tracking
- Low Noise Profile Having Nearly Zero Noise
- Great for Maximizing Battery Operated Applications by Providing a Wide Output Swing
- A High Signal to Noise Ratio as a Result of the LSK389's Tightly Matched Gate Threshold Voltages and Low Gate Threshold Voltages

Applications

- Audio Amplifiers and Preamps
- Discrete Low-Noise Operational Amplifiers
- Battery-Operated Audio Preamps
- Audio Mixer Consoles
- Acoustic Sensors
- Sonic Imaging
- Instrumentation Amplifiers Microphones
- Sonobouys
- Hydrophones
- Chemical and Radiation Detectors

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22 (Source: http://www.linearsystems.com/lldata/datasheets/LSK389A_LSK389B_LSK389C_LSK389D_Low_Noise_Monolithic_Dual_N-Channel_JFET.pdf)

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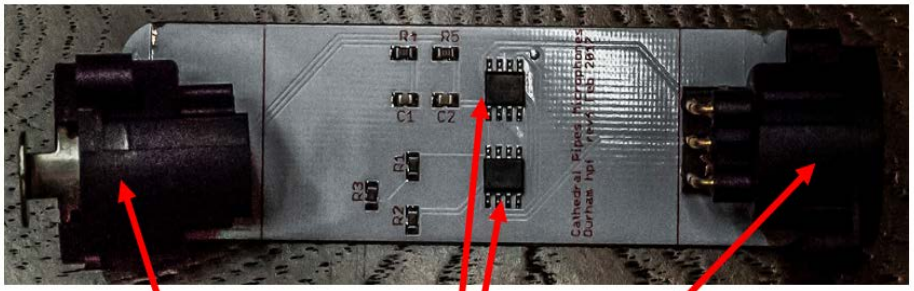
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Evidence of one of two LSK389 chips on the Durham circuit board. Each LSK389 chip contains a pair of JFETs, which Cathedral Pipes connected in cascode per each JFET pair

Infringer company and product names physically imprinted on the Durham's circuit board.



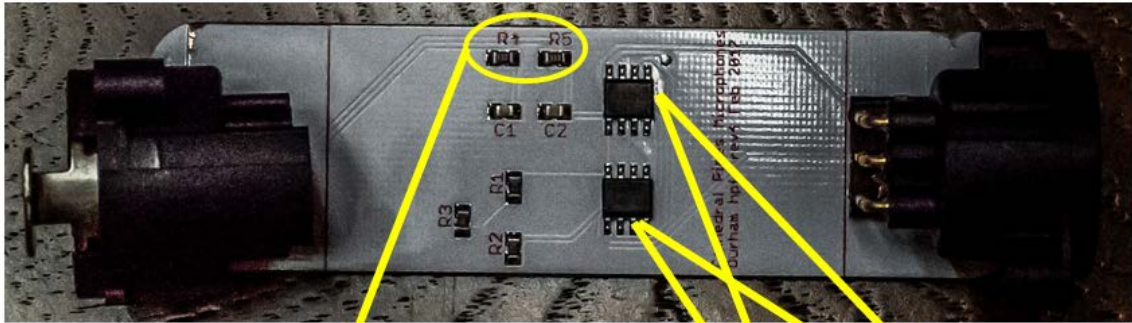
Durham's positive and negative input terminal (i.e. for microphone connection)

Durham's positive and negative output terminal (i.e. for connection to a mixer's XLR input or another phantom power source)

Two LSK389 chips on the Durham circuit board, with each chip containing a pair of JFETs that Cathedral Pipes connected in cascode per each JFET pair

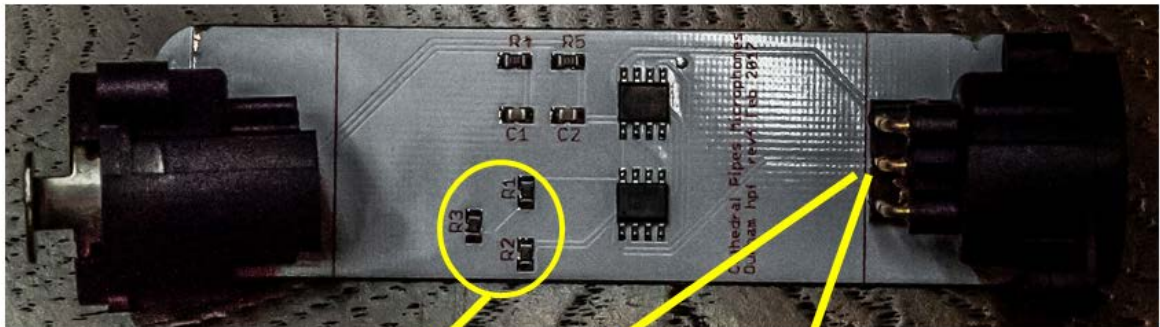
13. The Durham includes one or more resistors operatively connected to the first JFET and the third JFET within the phantom-powered JFET preamplifier gain circuit. An example of this can be found in the teardown photograph below, labeled in accordance with the claim language.

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Durham's "...one or more resistors coupled to the first JFET and the third JFET within the phantom-powered JFET preamplifier gain circuit..."

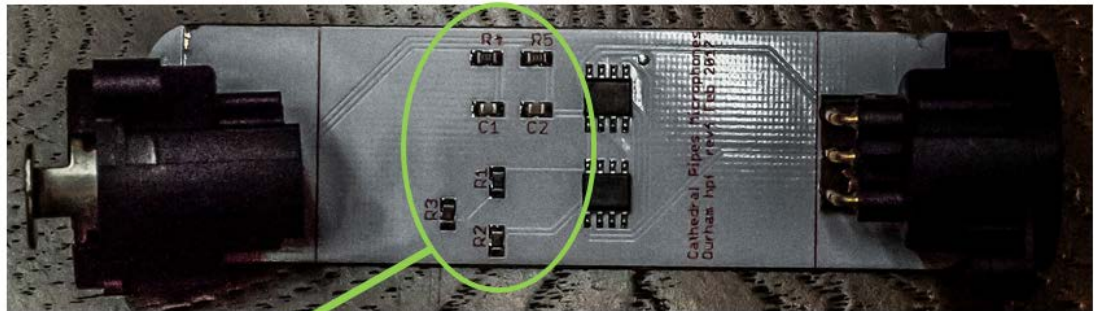
14. The Durham includes one or more gain-setting feed resistors external to the phantom-powered JFET preamplifier gain circuit, wherein the one or more gain-setting feed resistors are operatively connected to the positive signal output terminal or the negative signal output terminal of the phantom-powered JFET preamplifier gain circuit. An example of this can be found in the teardown photograph below, labeled in accordance with the claim language.



Durham's "...one or more gain-setting feed resistors external to the phantom-powered JFET preamplifier gain circuit, wherein the one or more gain-setting feed resistors are operatively connected to the positive signal output terminal or the negative signal output terminal of the phantom-powered JFET preamplifier gain circuit..."

15. The Durham includes a phantom-powered JFET preamplifier gain circuit, further comprising an RC network including an additional resistor and an RF shunt capacitor, wherein the RC network enables the phantom-powered JFET preamplifier gain circuit to be used as an external box powered by a power supply to the microphone without radio frequency interference associated with a cable length.

1 An example of this can be found in the teardown photograph below, labeled in
2 accordance with the claim language.



8 Durham's "...RC network including an additional resistor and an RF shunt capacitor; wherein the RC
9 network enables the phantom-powered JFET preamplifier gain circuit to be used as an external box powered
10 by the external phantom power supply to the microphone without radio frequency interference associated
11 with a cable length..."



15 16. The acts of infringement by Cathedral Pipes have caused damage to
16 Cloud, and Cloud is entitled to recover from Cathedral Pipes the damages sustained
17 by Cloud as a result of Cathedral Pipes' wrongful acts in an amount subject to proof
18 at trial. The infringement of Cloud's exclusive rights under the '327 Patent by
19 Cathedral Pipes has damaged and will continue to damage Cloud, causing irreparable
20 harm, for which there is no adequate remedy at law, unless enjoined by this Court.

21 17. Additionally, at least as early as its receipt of the cease and desist letter
22 on May 25, 2018, Cathedral Pipes has had knowledge of the '327 Patent and written
23 notice of the infringement. Cloud intends to seek discovery on the issue of willfulness
24 and reserves the right to seek a willfulness finding and increased damages under 35
25 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under
26 35 U.S.C. § 285.

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1 **COUNT II: INFRINGEMENT OF U.S. PATENT NO. 9,888,315**

2 18. Plaintiff repeats and re-alleges each and every allegation of paragraphs
3 1-17 as though fully set forth herein.

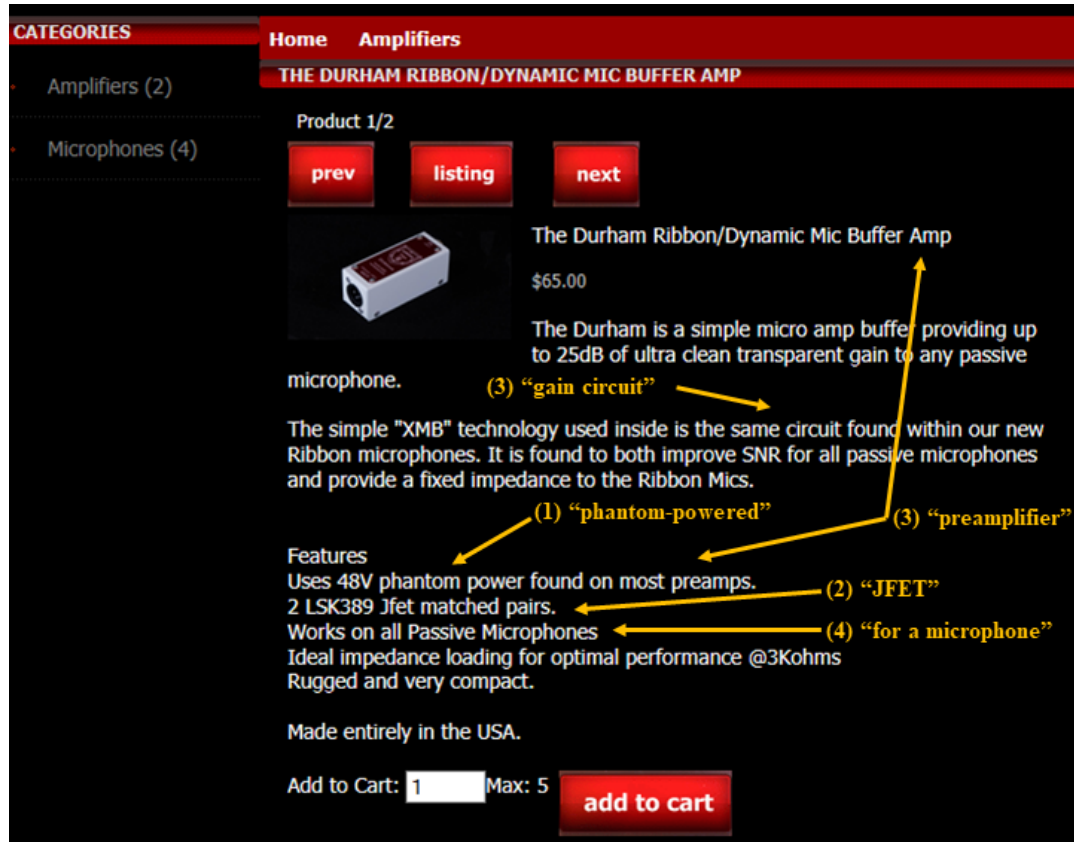
4 19. On February 6, 2018, the United States Patent and Trademark Office
5 (“USPTO”) duly and legally issued United States Patent 9,888,315 (“the ’315
6 Patent”) entitled “Microphone with Rounded Magnet Motor Assembly, Backwave
7 Chamber, and Phantom Powered JFET Circuit.” Cloud holds all rights, title and
8 interest in and to the ’315 Patent, yet Cathedral Pipes knowingly, actively, and
9 lucratively practices the patent.

10 20. Upon information and belief, Cathedral Pipes has infringed directly and
11 continues to infringe directly (literally and/or under the doctrine of equivalents) the
12 ’315 Patent. The infringing acts include, but are not limited to, the manufacture, use,
13 sale, and/or offer for sale of products and/or methods encompassed by Claims 1, 2,
14 3, 4, 5, and 9 of the ’315 Patent.

15 21. Cathedral Pipes’ infringing product, the Durham, practices each and
16 every limitation of Claim 1 and its dependent Claims 2, 3, 4, 5, and 9 of the ’315
17 Patent.

18 22. The Durham includes a phantom-powered JFET preamplifier gain
19 circuit for a microphone or a musical instrument. An example of this can be found
20 at Defendant’s website [http://www.cathedralpipes.com/zen-](http://www.cathedralpipes.com/zen-cart/index.php?main_page=product_info&products_id=208)
21 [cart/index.php?main_page=product_info&products_id=208](http://www.cathedralpipes.com/zen-cart/index.php?main_page=product_info&products_id=208) as shown below,
22 labeled in accordance with the claim language.

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23. The Durham includes a first JFET with its gate terminal operatively connected to a positive signal input terminal, which is configured to receive at least one sound source signal. An example of this can be found from the diagrammed datasheet and teardown photographs below paragraph 26.

24. The Durham includes a second JFET coupled to a negative signal output terminal, wherein the second JFET is also coupled in cascode to the first JFET and is powered by an external phantom power supply. An example of this can be found from the diagrammed datasheet and teardown photographs below paragraph 26.

25. The Durham includes a third JFET having its gate terminal coupled to a negative signal input terminal, which is configured to receive the at least one sound source signal. An example of this can be found from the diagrammed datasheet and teardown photographs below paragraph 26.

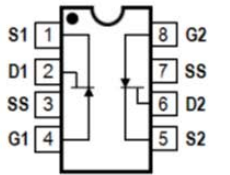
26. The Durham includes a fourth JFET coupled to a positive signal output terminal, wherein the fourth JFET is coupled in cascode to the third JFET and is powered by the external phantom power supply. An example of this can be found from the diagrammed datasheet and teardown photographs below.

LINEAR SYSTEMS


LSK389 Series
Ultra Low Noise Monolithic Dual N-Channel JFET Amplifier

LSK389 A, B, C & D

An excerpt from LSK389 Datasheet. Each LSK389 chip contains two (i.e. dual) JFETs, and two LSK389 chips were integrated into the Durham for a total of four JFETs



SOIC 8L
Top View



Benefits

- Unique Monolithic Dual Design Construction of Interleaving Both JFETs on the Same Piece of Silicon
- Excellent Matching and Thermal Tracking
- Low Noise Profile Having Nearly Zero Noise
- Great for Maximizing Battery Operated Applications by Providing a Wide Output Swing
- A High Signal to Noise Ratio as a Result of the LSK389's Tightly Matched Gate Threshold Voltages and Low Gate Threshold Voltages

Applications

- Audio Amplifiers and Preamps
- Discrete Low-Noise Operational Amplifiers
- Battery-Operated Audio Preamps
- Audio Mixer Consoles
- Acoustic Sensors
- Sonic Imaging
- Instrumentation Amplifiers
- Microphones
- Sonobouys
- Hydrophones
- Chemical and Radiation Detectors

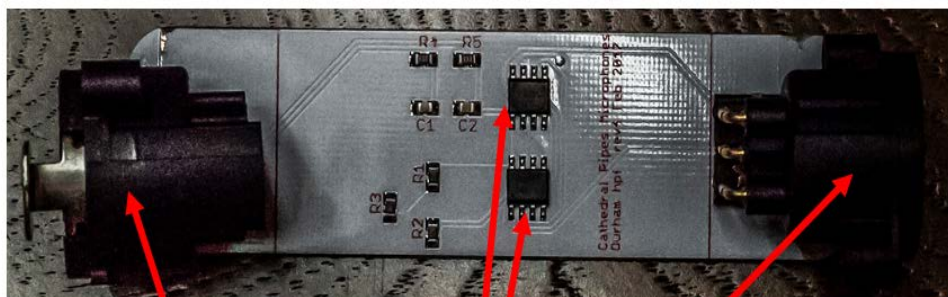
(Source: http://www.linearsystems.com/lldata/datasheets/LSK389A_LSK389B_LSK389C_LSK389D_Low_Noise,_Monolithic_Dual,_N-Channel_JFET.pdf)

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Evidence of one of two LSK389 chips on the Durham circuit board. Each LSK389 chip contains a pair of JFETs, which Cathedral Pipes connected in cascode per each JFET pair

Infringer company and product names physically imprinted on the Durham's circuit board.



Durham's positive and negative input terminal (i.e. for microphone connection)

Durham's positive and negative output terminal (i.e. for connection to a mixer's XLR input or another phantom power source)

Two LSK389 chips on the Durham circuit board, with each chip containing a pair of JFETs that Cathedral Pipes connected in cascode per each JFET pair

27. The Durham includes a phantom-powered JFET preamplifier gain circuit, wherein the at least one sound source signal is a microphone signal from the microphone or a sound signal from the musical instrument. An example of this can be found on Defendant's website at <http://www.cathedralpipes.com/durham.php> as shown below, labeled in accordance with the claim language.

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The Durham Mic Booster Preamp

We took the circuit out of our active Ribbon microphone "The Seville" and basically put it in a box. The result was an active microphone booster that can provide any dynamic or passive ribbon microphone with 20dB of nice clean gain.

Components:

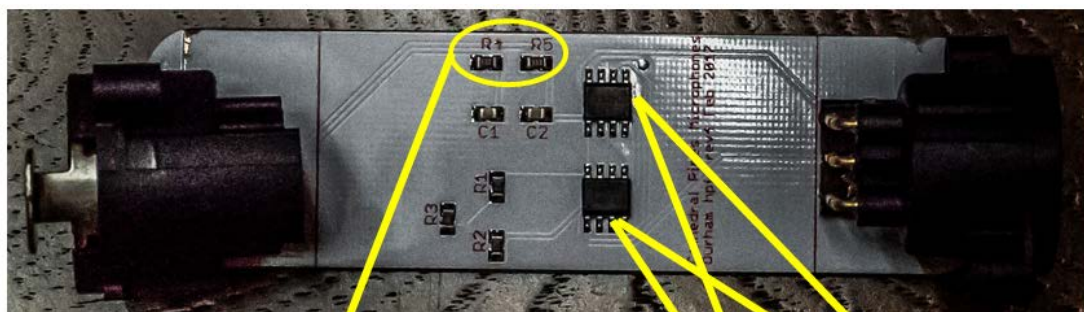
- Linear Low Noise Dual matched JFETs
- Neutrik connectors
- powder coated steel chassis

Price : \$65.00

Buy One

Durham's "...at least one sound source signal is a microphone signal from the microphone..."

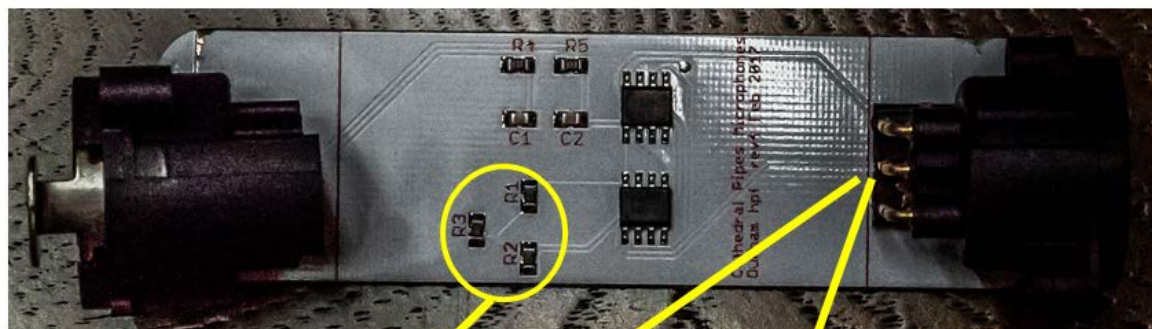
28. The Durham includes a phantom-powered JFET preamplifier gain circuit, further comprising one or more resistors coupled to the first JFET and the third JFET within the phantom-powered JFET preamplifier gain circuit. An example of this can be found in the teardown photograph below, labeled in accordance with the claim language.



Durham's "...one or more resistors coupled to the first JFET and the third JFET within the phantom-powered JFET preamplifier gain circuit..."

29. The Durham includes a phantom-powered JFET preamplifier gain circuit, further comprising one or more gain-setting feed resistors, wherein the one or more gain-setting feed resistors are coupled to the positive signal output terminal or the negative signal output terminal of the phantom-powered JFET preamplifier

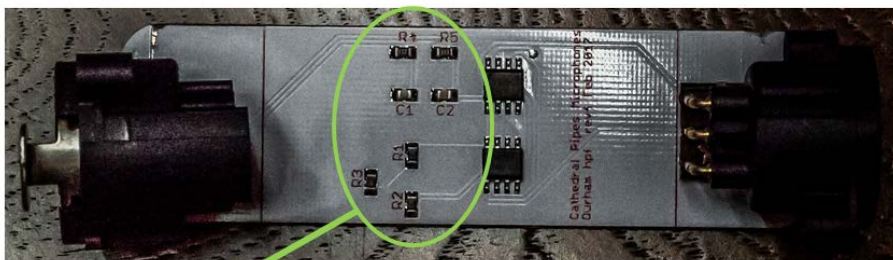
1 gain circuit. An example of this can be found in the teardown photograph below,
2 labeled in accordance with the claim language.



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10 Durham's "...one or more gain-setting feed resistors external to the phantom-powered JFET
11 preamplifier gain circuit, wherein the one or more gain-setting feed resistors are operatively
12 connected to the positive signal output terminal or the negative signal output terminal of the
13 phantom-powered JFET preamplifier gain circuit..."

14 30. The Durham includes a phantom-powered JFET preamplifier gain
15 circuit, further comprising an RC network including an additional resistor and an RF
16 shunt capacitor, wherein the RC network enables the phantom-powered JFET
17 preamplifier gain circuit to be used as an external box powered by the external
18 phantom power supply to the microphone without radio frequency interference
19 associated with a cable length. An example of this can be found in the teardown
20 photographs below, labeled in accordance with the claim language.

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Durham's "...RC network including an additional resistor and an RF shunt capacitor; wherein the RC network enables the phantom-powered JFET preamplifier gain circuit to be used as an external box powered by the external phantom power supply to the microphone without radio frequency interference associated with a cable length..."



31. The Durham includes a phantom-powered JFET preamplifier gain circuit, wherein the microphone is a ribbon microphone, a condenser microphone, or a dynamic microphone. An example of this can be found at the Defendant's website at <http://www.cathedralpipes.com/durham.php> as shown below, labeled in accordance with the claim language.

The Durham Mic Booster Preamp

We took the circuit out of our active Ribbon microphone "The Seville" and basically put it in a box. The result was an active microphone booster that can provide any dynamic or passive ribbon microphone with 20dB of nice clean gain.

Components:

- Linear Low Noise Dual matched JFETS
- Neutrik connectors
- powder coated steel chassis

Price : \$65.00

Buy One

"...microphone [connected to the Durham] is a ribbon microphone, ..., or a dynamic microphone ..."

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- judgment interest, in an amount to be determined according to proof;
- d. An award of attorneys’ fees, costs and expenses pursuant to 35 U.S.C. § 285 or as otherwise permitted by law; and
- e. Granting Cloud such further relief as the Court may deem just and proper.

RESERVATION OF RIGHTS

Cloud’s investigation is ongoing, and certain material information remains in the sole possession of Defendant Cathedral Pipes or third parties, which will be obtained via discovery herein. Cloud expressly reserves the right to amend or supplement the causes of action set forth herein in accordance with Rule 15 of the Federal Rules of Civil Procedure.

Dated: April 22, 2019

Respectfully submitted,

By: /s/ Kaiwen Tseng

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