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| <b>PATENT ASSIGNMENT COVER SHEET</b> |
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4075494

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|------------------------------|-------------------|
| <b>SUBMISSION TYPE:</b>      | NEW ASSIGNMENT    |
| <b>NATURE OF CONVEYANCE:</b> | SECURITY INTEREST |

**CONVEYING PARTY DATA**

| Name               | Execution Date |
|--------------------|----------------|
| CBF NETWORKS, INC. | 09/20/2016     |

**RECEIVING PARTY DATA**

|                        |                      |
|------------------------|----------------------|
| <b>Name:</b>           | COMERICA BANK        |
| <b>Street Address:</b> | 75 EAST TRIMBLE ROAD |
| <b>City:</b>           | SAN JOSE             |
| <b>State/Country:</b>  | CALIFORNIA           |
| <b>Postal Code:</b>    | 95131                |

**PROPERTY NUMBERS Total: 48**

| Property Type  | Number  |
|----------------|---------|
| Patent Number: | 8238318 |
| Patent Number: | 8761100 |
| Patent Number: | 8502733 |
| Patent Number: | 8311023 |
| Patent Number: | 8300590 |
| Patent Number: | 8385305 |
| Patent Number: | 8467363 |
| Patent Number: | D704174 |
| Patent Number: | 8422540 |
| Patent Number: | 9226315 |
| Patent Number: | 8830943 |
| Patent Number: | 8811365 |
| Patent Number: | 8942216 |
| Patent Number: | 8638839 |
| Patent Number: | 8649418 |
| Patent Number: | 8824442 |
| Patent Number: | 9179240 |
| Patent Number: | 8948235 |
| Patent Number: | 8897340 |
| Patent Number: | 8928542 |

PATENT

| Property Type       | Number   |
|---------------------|----------|
| Patent Number:      | 8982772  |
| Patent Number:      | 8989762  |
| Patent Number:      | 8872715  |
| Patent Number:      | 9001809  |
| Patent Number:      | 9055463  |
| Patent Number:      | 9049611  |
| Patent Number:      | 9226295  |
| Patent Number:      | 9252857  |
| Patent Number:      | 9345036  |
| Patent Number:      | 9178558  |
| Patent Number:      | 9282560  |
| Patent Number:      | 9313674  |
| Patent Number:      | 9350411  |
| Patent Number:      | 9325398  |
| Patent Number:      | 9374822  |
| Patent Number:      | 9408215  |
| Application Number: | 15060013 |
| Application Number: | 14983059 |
| Application Number: | 14964292 |
| Application Number: | 14624365 |
| Application Number: | 14666294 |
| Application Number: | 14572725 |
| Application Number: | 14559859 |
| Application Number: | 15050009 |
| Application Number: | 15084867 |
| Application Number: | 15142793 |
| Application Number: | 15165504 |
| Application Number: | 15203658 |

**CORRESPONDENCE DATA**

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*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

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**Correspondent Name:** MICHELLE D. KAHN, SHEPPARD MULLIN

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**ATTORNEY DOCKET NUMBER:** 032B-244979

|   |                  |
|---|------------------|
| <b>NAME OF SUBMITTER:</b>   | MICHELLE D. KAHN |
| <b>SIGNATURE:</b>   | /MDK/            |
| <b>DATE SIGNED:</b>   | 09/29/2016       |
| <b>Total Attachments: 6</b><br>source=IP Security Agreement - CBF Networks#page1.tif<br>source=IP Security Agreement - CBF Networks#page2.tif<br>source=IP Security Agreement - CBF Networks#page3.tif<br>source=IP Security Agreement - CBF Networks#page4.tif<br>source=IP Security Agreement - CBF Networks#page5.tif<br>source=IP Security Agreement - CBF Networks#page6.tif |                  |



## INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement (the "Agreement") is made as of September 20, 2016, by and between CBF Networks, Inc., dba Fastback Networks, a Delaware corporation ("Grantor"), and Comerica Bank ("Secured Party").

### RECITALS

A. Pursuant to that certain Loan and Security Agreement (as amended, supplemented, extended, restated, or renewed from time to time, the "Loan Agreement") dated as of October 7, 2013, as supplemented by that certain Prime Referenced Rate Addendum to Loan and Security Agreement entered into as of October 7, 2013, by and between Grantor and Secured Party, as amended by that certain First Amendment to Loan and Security Agreement dated as of July 15, 2015, by and between Grantor and Secured Party, and as further amended by that certain Second Amendment to Loan and Security Agreement (the "Second Amendment") dated as of even date herewith, by and between Grantor and Secured Party, Secured Party made a loan to Grantor in the principal amount of \$3,000,000 as of August 1, 2016. All initially capitalized terms used herein without definition shall have the meanings ascribed to them in the Loan Agreement.

B. In order to induce Secured Party to enter into the Second Amendment, Grantor has agreed to grant a security interest in certain intangible property to Secured Party for purposes of securing the obligations of Grantor to Secured Party under the Loan Agreement.

NOW, THEREFORE, THE PARTIES HERETO AGREE AS FOLLOWS:

1. Grant of Security Interest. As collateral security for the prompt and complete payment and performance of all of Grantor's present or future indebtedness, obligations and liabilities to Secured Party, Grantor hereby grants a security interest and mortgage to Secured Party, as security, in and to Grantor's entire right, title and interest in, to and under the following (all of which shall collectively be called the "Intellectual Property Collateral"):

(a) Any and all copyright rights, copyright applications, copyright registrations and like protections in each work or authorship and derivative work thereof, whether published or unpublished and whether or not the same also constitutes a trade secret, now or hereafter existing, created, acquired or held, including without limitation those set forth on Exhibit A attached hereto (collectively, the "Copyrights");

(b) Any and all trade secrets, and any and all intellectual property rights in computer software and computer software products now or hereafter existing, created, acquired or held;

(c) Any and all design rights which may be available to Grantor now or hereafter existing, created, acquired or held;

(d) All patents, patent applications and like protections including without limitation improvements, divisions, continuations, renewals, reissues, extensions and continuations-in-part of the same, including without limitation the patents and patent applications set forth on Exhibit B attached hereto (collectively, the "Patents");

(e) Any trademark and servicemark rights, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Grantor connected with and symbolized by such trademarks, including without limitation those set forth on Exhibit C attached hereto (collectively, the "Trademarks");

11. Amendments. This Agreement may be amended only by a written instrument signed by both parties hereto.

12. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute the same instrument.

13. California Law and Jurisdiction; Jury Waiver. This Agreement shall be governed by the laws of the State of California, without regard for choice of law provisions. Grantor and Secured Party consent to the exclusive jurisdiction of any state or federal court located in California. THE UNDERSIGNED ACKNOWLEDGE THAT THE RIGHT TO TRIAL BY JURY IS A CONSTITUTIONAL ONE, BUT THAT IT MAY BE WAIVED UNDER CERTAIN CIRCUMSTANCES. TO THE EXTENT PERMITTED BY LAW, EACH PARTY, AFTER CONSULTING (OR HAVING HAD THE OPPORTUNITY TO CONSULT) WITH COUNSEL OF ITS, HIS OR HER CHOICE, KNOWINGLY AND VOLUNTARILY, AND FOR THE MUTUAL BENEFIT OF ALL PARTIES, WAIVES ANY RIGHT TO TRIAL BY JURY IN THE EVENT OF LITIGATION ARISING OUT OF OR RELATED TO THIS AGREEMENT OR ANY OTHER DOCUMENT, INSTRUMENT OR AGREEMENT BETWEEN THE UNDERSIGNED PARTIES.

*[Signature Page Follows]*

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

Address of Grantor:

CBF NETWORKS, INC.  
2460 N. 1<sup>st</sup> Street, Suite 200  
San Jose, CA 95131  
Attn: Kevin J. Duffy

GRANTOR:

CBF NETWORKS, INC.,  
a Delaware corporation

By: Kevin J. Duffy  
Its: CEO

Address of Secured Party:

75 East Trimble Road  
San Jose, California 95131  
Attn: Credit Manager  
Fax Number: (408) 556-5097

SECURED PARTY:

COMERICA BANK

By: [Signature]  
Its: Vice President

EXHIBIT B

Patents

Issued/Published Patents:

| COUNTRY | PATENT   | APPLICATION NO. | FILING DATE | PATENT NO. | ISSUE DATE |
|---------|--|-----------------|-------------|------------|------------|
| USA     | Intelligent Backhaul Radio   | 13/212036       | 8/17/11     | 8238318    | 8/7/12     |
| USA     | Intelligent Backhaul System  | 13/271051       | 10/11/11    | 8761100    | 6/24/14    |
| USA     | Transmit Co-Channel Spectrum Sharing   | 13/371346       | 2/10/12     | 8502733    | 8/6/13     |
| USA     | Intelligent Backhaul Radio   | 13/371366       | 2/10/12     | 8311023    | 11/13/12   |
| USA     | Intelligent Backhaul System  | 13/415778       | 3/8/12      | 8300590    | 10/30/12   |
| USA     | Hybrid Band Intelligent Backhaul Radio   | 13/448294       | 4/16/12     | 8385305    | 2/26/13    |
| USA     | Intelligent Backhaul Radio and Antenna System  | 13/536927       | 6/28/12     | 8467363    | 6/18/13    |
| USA     | Intelligent Backhaul Radio with Symmetric Wing Random  | 29/429634       | 8/14/12     | D704174    | 5/6/14     |
| USA     | Intelligent Backhaul Radio with Zero Division Duplexing  | 13/609156       | 9/10/12     | 8422540    | 4/16/13    |
| USA     | Intelligent Backhaul Radio with Multi-Interface Switching  | 13/632993       | 10/1/12     | 9226315    | 12/29/15   |
| USA     | Intelligent Backhaul Management System   | 13/633028       | 10/1/12     | 8830943    | 9/9/14     |
| USA     | Intelligent Backhaul Radio   | 13/645472       | 10/4/12     | 8811365    | 8/9/14     |
| USA     | Hybrid Band Intelligent Backhaul Radio   | 13/748544       | 1/23/13     | 8942216    | 1/27/15    |
| USA     | Intelligent Backhaul Radio with Co-Band Zero Division Duplexing  | 13/767796       | 2/14/13     | 8638839    | 1/28/14    |
| USA     | Enhancement of the Channel Propagation Matrix Order and Rank for A Wireless Channel  | 13/763530       | 2/8/13      | 8649418    | 2/11/14    |
| USA     | Intelligent Backhaul Radio with Adaptive Channel Bandwidth Control   | 13/898429       | 5/20/13     | 8824442    | 9/2/14     |
| USA     | Transmit Co-Channel Spectrum Sharing   | 13/934175       | 7/2/13      | 9179240    | 11/3/15    |
| USA     | Intelligent Backhaul Radio with Co-Band Zero Division Duplexing Utilizing Transmitter to Receiver Antenna Isolation Adaptation | 14/108200       | 12/16/13    | 8948235    | 2/3/15     |
| USA     | Enhancement of the Channel Propagation Matrix Order and Rank for A Wireless Channel  | 14/146891       | 1/3/14      | 8897340    | 11/25/14   |

| COUNTRY | PATENT   | APPLICATION NO. | FILING DATE | PATENT NO. | ISSUE DATE |
|---------|--|-----------------|-------------|------------|------------|
| USA     | Backhaul Radio with an Aperture-Fed Antenna Assembly                           | 14/197158       | 3/4/14      | 8928542    | 1/6/15     |
| USA     | Radio Transceiver with Improved Radar Detection                                | 14/151190       | 1/9/14      | 8982772    | 3/17/15    |
| USA     | Advanced Backhaul Services   | 14/098456       | 12/5/13     | 8989762    | 3/24/15    |
| USA     | Backhaul Radio with a Substrate Tab-Fed Antenna Assembly                       | 14/199734       | 3/6/14      | 8872715    | 10/28/14   |
| USA     | Intelligent Backhaul Radio with Transmit and Receive Antenna Arrays            | 14/336958       | 7/21/14     | 9001809    | 4/7/15     |
| USA     | Intelligent Backhaul Radio with Receiver Performance Enhancement               | 14/337744       | 7/22/14     | 9055463    | 6/9/15     |
| USA     | Backhaul Radio with Extreme Interference Protection                            | 14/498959       | 9/26/14     | 9049611    | 6/2/15     |
| USA     | Hybrid Band Radio with Data Direction Determined by a Link Performance Metric  | 14/552431       | 11/24/14    | 9226295    | 12/29/15   |
| USA     | Embedded Control Signaling Wireless Systems                                    | 14/535972       | 11/7/14     | 9252857    | 2/2/16     |
| USA     | Full Duplex Radio Transceiver with Remote Radar Detection                      | 14/608024       | 1/28/15     | 9345036    | 5/17/16    |
| USA     | Backhaul Radio with Horizontally or Vertically Arranged Receive Antenna Arrays | 14/632624       | 2/26/15     | 9178558    | 11/3/15    |
| USA     | Full Duplex Backhaul Radio with Transmit Beamforming and SC-FDE Modulation     | 14/686674       | 4/14/15     | 9282560    | 3/8/16     |
| USA     | Backhaul Radio with Extreme Interference Protection                            | 14/688550       | 4/16/15     | 9313674    | 4/12/16    |
| USA     | Full Duplex Backhaul Radio with MIMO Antenna Array                             | 14/837797       | 8/27/15     | 9350411    | 5/24/16    |
| USA     | Method for Installing a Backhaul Radio with an Antenna Array                   | 14/839018       | 8/28/15     | 9325398    | 4/26/16    |
| USA     | Method for Installing a Hybrid Band Radio                                      | 14/950354       | 11/24/15    | 9374822    | 6/21/16    |
| USA     | Full Duplex Backhaul Radio with Transmit Beamforming                           | 14/988578       | 1/5/16      | 9408215    | 8/2/16     |



Patent Applications:

|     |   |           |          |  |  |
|-----|---|-----------|----------|--|--|
| USA | Full Duplex Backhaul Radio With Interference Measurement During A Blanking Interval   | 15/060013 | 3/3/16   |  |  |
| USA | Embedded Control Signaling for Self-Organizing Wireless Backhaul Radio and Systems    | 14/983059 | 12/29/15 |  |  |
| USA | Method For Deploying Backhaul Radio With Antenna Array                                | 14/964292 | 12/9/15  |  |  |
| USA | Self Organizing Backhaul Radio  | 14/624365 | 2/17/15  |  |  |
| USA | Advanced Backhaul Services  | 14/666294 | 3/23/15  |  |  |
| USA | Zero Division Duplexing Backhaul Radio With Adaptable RF And/Or Baseband Cancellation | 14/572725 | 12/16/14 |  |  |
| USA | Aperture-Fed, Stacked-Patch Antenna Assembly  | 14/559859 | 12/3/14  |  |  |
| USA | Radio With Oobe Victim Detection  | 15/050009 | 2/22/16  |  |  |
| USA | Method for Installing A Backhaul Link with Multiple Antenna Patterns                  | 15/084867 | 3/30/16  |  |  |
| USA | Radio with Asymmetric Directional Antenna Sub-Arrays                                  | 15/142793 | 4/29/16  |  |  |
| USA | Hybrid Band Radio With Adaptive Antenna Arrays  | 15/165504 | 5/26/16  |  |  |
| USA | Backhaul Radio With Antenna Array And Multiple RF Carrier Frequencies                 | 15/203658 | 7/6/16   |  |  |
| USA | 5G RAN and Backhaul Apparatus   | 62/310925 | 3/21/16  |  |  |
| USA | Electronic Alignment Using Signature Emissions for Radios                             | 62/361959 | 7/13/16  |  |  |