506990498 11/22/2021

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 EPAS ID: PAT7037337

Stylesheet Version v1.2

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------|----------------|
| JOHN VALDEZ | 11/11/2021 |
| STEVEN SMITH | 11/10/2021 |
| ERWIN WARDOJO | 11/10/2021 |

RECEIVING PARTY DATA

| Name: | FRONTIER COMMUNICATIONS HOLDINGS, LLC |
|-----------------|---------------------------------------|
| Street Address: | 401 MERRITT 7 |
| City: | NORWALK |
| State/Country: | CONNECTICUT |
| Postal Code: | 06851 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 17524351 |

CORRESPONDENCE DATA

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Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

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MARSHALL, GERSTEIN & BORUN LLP **Correspondent Name:**

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| ATTORNEY DOCKET NUMBER: | 33566/57182 |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | PETER J.W. MELSA |
| SIGNATURE: | /Peter J.W. Melsa/ |
| DATE SIGNED: | 11/22/2021 |

Total Attachments: 5

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> PATENT REEL: 058182 FRAME: 0994

ASSIGNMENT

Appl. No.: 17/524,351

Filed: November 11, 2021

Title: Systems and Methods for Mapping Optical Connections in a Fiber Distribution Hub of

a Passive Optical Network

For good and valuable consideration, the receipt and sufficiency of which are hereby agreed, John Valdez, Steven Smith, and Erwin Wardojo ("Assignor") agrees to assign and hereby does assign to FRONTIER COMMUNICATIONS HOLDINGS, LLC, 401 Merritt 7, Norwalk, Connecticut 06851 ("Assignee") all rights, title, and interests in and to the inventions that are disclosed in the application listed above (the "Application") including, but without limitation, all rights:

(i) in and to the Application and all other applications anywhere in the world that have been or may be filed on said inventions and/or naming Assignor as an inventor of said inventions,

- (ii) in and to any and all applications claiming priority benefit of the applications listed above, including all continuations, divisionals, and continuations-in-part,
 - (iii) in and to all patents issuing on any of the foregoing,
- (iv) in and to all reissues, reexaminations, supplemental examinations, inter partes reviews, oppositions, post-grant reviews, supplementary protection certificates, and/or extensions of any of the foregoing,
- (v) to bring suit, the right to claim and retain all damages and/or seek other remedies for the past, present, and future infringement and/or misappropriation of any of the foregoing, and
- (vi) of priority including, but without limitation, the right to claim priority benefit of or to the Application and all of the foregoing.

Assignor requests the Commissioner for Patents in the United States and similar authorities outside the United States to issue said patents to and in the name of Assignee or its designee. Assignor authorizes the attorneys of record in the application to insert in this assignment the filing date and application number of the Application when officially known. Assignor:

(a) declares: (1) The application was made or authorized to be made by me, (2) I believe myself, as a named inventor, to be the original inventor or an original joint inventor of a claimed invention in the Application and I understand that any willful false statement made by me in this paragraph is punishable under 18 U.S.C. §1001 by fine or imprisonment of not more than five years, or both;

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- (b) warrants except in favor of Assignee: (1) Assignor is the owner of all its rights, title and interests herein assigned and has the right to make this unconditional and irrevocable assignment to Assignee without obtaining any approval or permission of a third party; and (2) there are no outstanding encumbrances, liens, prior assignments, licenses, or other obligations or restrictions on the rights, title and interests herein assigned; and
- (c) agrees to execute, upon the request of Assignee or its designee at no expense to Assignor, all applications or documents related to the inventions including, but without limitation, any oath, declaration, or affidavit relating thereto that Assignee may deem necessary or expedient, and to fully cooperate with Assignee and/or its designee to perform all affirmative acts requested to prepare, file, prosecute, maintain, defend, enforce, and vest in Assignee the rights, title, and interests assigned herein whereby said rights, title and interests will be held and enjoyed by Assignee or its designee to the full end of the term for which the intellectual property rights herein may be available as fully and entirely as the same would have been held and enjoyed by Assignor if this assignment had not been made.

| | | | DocuSigned by: | , |
|-------|------------|------------|----------------|---|
| Date: | 11/11/2021 | Signature: | John Valdez | / |
| | | | John Valdez | |

| | | | DocuSigned by: | 1 | |
|-------|------------|--------------|----------------|---|--|
| Date: | 11/10/2021 | Signature: | Steven Smith | | |
| | | Steven Smith | | | |

| Date: | 11/10/2021 | Signature: | Ewin Wardojo | / |
|-------|------------|------------|---------------|---|
| | | | Erwin wardojo | |

| On behalf of Assignee, | Paul R. Garcia | | |
|--|--|------------------------------------|--|
| | Name | | |
| | SVP & Associate General Counsel, IP & Litigation | | |
| | Title | | |
| hereby confirms Assignee's assignment. | acceptance of all rights, privileges, til | tle and interests conveyed by this | |
| | , Paul R. Garcia , | 11-12-21 | |
| | Signature | Date | |

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