

09-08-2000



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PD-99W205

M21 8-22-00

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Conveyance Type

Assignment Security Agreement

License Change of Name

Merger Other _____

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Departmental File Secret File

JCS80 U.S. PTO
09/643440
08/22/00

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Mark if additional names of conveying parties attached

Name (line 1) Carl S. Kirkconnell Execution Date Month Day Year 08-22-00

Second Party

Name (line 1) Kenneth D. Price Execution Date Month Day Year 08-22-00

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Receiving Party

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If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment.)

Name (line 1) RAYTHEON COMPANY

Name (line 2) _____

Address (line 1) Bldg. E1, M.S. E150

Address (line 2) P.O. Box 902

Address (line 3) El Segundo California 90245
City State/Country Zip Code

Domestic Representative Name and Address

Enter for the first Receiving Party only.

Name Colin M. Raufer, Reg. No. 40,781

Address (line 1) Bldg. E1, M.S. E150

Address (line 2) P.O. Box 902

Address (line 3) El Segundo, California 90245

Address (line 4) _____

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Pages Enter the total number of pages of the attached conveyance document including any attachments. #

Application Number(s) or Patent Number(s) Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)			Patent Number(s)		
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If this document is being filed together with a new Patent Application, enter the date the patent application was signed by the first named executing inventor. Month Day Year

Patent Cooperation Treaty (PCT)

Enter PCT application number PCT PCT
 only if a U.S. Application Number PCT PCT
 has not been assigned.

Number of Properties Enter the total number of properties involved. #

Fee Amount Fee Amount for Properties Listed (37 CFR 3.41): \$

Method of Payment: Enclosed Deposit Account

Deposit Account (Enter for payment by deposit account or if additional fees can be charged to the account.) #

Authorization to charge additional fees: Yes No

Statement and Signature

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.

Colin M. Raufer, Reg. No. 40,781 *Colin M. Raufer* August 22, 2000

Name of Person Signing Signature Date

RECORDATION FORM COVER SHEET
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PATENTS ONLY

Conveying Party(ies)

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Enter additional Conveying Parties

Name (line 1)

Execution Date
Month Day Year

Name (line 2)

Execution Date
Month Day Year

Name (line 1)

Name (line 2)

Execution Date
Month Day Year

Name (line 1)

Name (line 2)

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Patent Application Number(s)

Patent Number(s)

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ASSIGNMENTPage 1 of 2
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WHEREAS, I, as below named sole inventor (if only one name is listed below) or joint inventor (if plural names are listed below) of the city and state as stated below next to my name, have invented a(an) **PULSE TUBE EXPANDER HAVING A POROUS PLUG PHASE SHIFTER** for which application for Letters Patent of the United States has been executed by me on or before this day, or (if the following is completed) filed on _____ as Serial No. _____; and

WHEREAS, RAYTHEON COMPANY, (hereinafter referred to as Raytheon), a Delaware Corporation, having its principal place of business in Lexington, Massachusetts, is desirous of acquiring the entire and exclusive right, title and interest in, to and under said invention, said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world;

NOW, THEREFORE, in consideration of the obligations voluntarily assumed by me and set forth in an invention agreement between me and my employer, effective the date as stated below next to my name, and other good and valuable consideration, receipt of which is hereby acknowledged, I do hereby sell, assign and transfer to RAYTHEON, its successors, assigns or other legal representatives, the entire and exclusive right, title and interest in and to said invention invented by me, to said application and any and all applications which are continuations, continuations-in-part, divisions or substitutes of said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world on any of said applications and to any and all reexaminations, reissues, renewals or extensions of said Letters Patent in the United States and throughout the world for the full term or terms for which said Letters patent may be granted in the United States and throughout the world; authorize and request The Commissioner of Patents and Trademarks of the United States and all foreign countries to issue all such Letters Patent to said RAYTHEON, its successors, assigns or other legal representatives; covenant that no assignment, sale, agreement, transfer or encumbrance has been, or will be, made or entered into which would conflict with this assignment, sale and transfer; and agree to communicate to RAYTHEON, its successors, assigns or other legal representatives, upon request and at no cost or expense to me, any facts known by me respecting said invention, do all lawful acts, including the execution and delivery of all papers and proper oaths and giving of testimony that is deemed necessary or desirable by RAYTHEON, its successors, assigns or other legal representatives with regard to said invention for protecting, obtaining, maintaining and enforcing any and all of said Letters Patent in the United States and throughout the world for said invention and for perfecting, affirming, recording and maintaining the title of RAYTHEON, its successors, assigns or other legal representatives, and generally cooperate to the fullest extent in all matters pertaining to said invention, and any and all of said Letters Patent and the title thereto in RAYTHEON, its successors, assigns or other legal representatives.

