# 505128146 10/05/2018 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5174908

SUBMISSION TYPE:		NEW ASSIGNMENT		
NATURE OF CONVE	YANCE:	ASSIGNMENT	Т	
CONVEYING PARTY	/ DATA			
		Name	Execution Date	
Mark Anthony O'DEL	L		09/21/2018	
Stephen Barry FOUL	KES		09/21/2018	
Philip John KENT		09/21/2018		
RECEIVING PARTY Name:				
Street Address:	Cody Te	chnology Park, Ively Road		
City:	Farnbord	Farnborough, Hampshire		
State/Country:	United K	ingdom		
State/Country.				

### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16081655

### **CORRESPONDENCE DATA**

(703)836-2787							
Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sen using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.							
703-836-6400							
email@oliff.com							
JAMES A. OLIFF							
OLIFF PLC							
P.O. BOX 320850							
ALEXANDRIA, VIRGINIA 22320-4850							

ATTORNEY DOCKET NUMBER:	182980
NAME OF SUBMITTER:	KATIE HERNANDEZ
SIGNATURE:	/Katie Hernandez/ for James A. Oliff
DATE SIGNED:	10/05/2018
Tatal Attachments, 0	

### **Total Attachments: 3**

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#### ASSIGNMENT

	Insert	(1)	Mark Anthony O'DELL	(2)		
(1-8)	Legal Name(s)	(3)		(4)		
	of Inventor(s)	(5)	***************************************	(6)		
		(7)	A	(8)		
		the un	sideration of the sum of one dollar dersigned, the receipt and sufficien , and hereby does assign, transfer a	cy of which are hereby a	and valuable consideration paid to each of acknowledged, each undersigned agrees to	
(9)	Insert Name of Assignee	(9)	QINETIQ LIMITED			
(10)	Insert Address of Assignee	(10) Cody Technology Park, Ively Road, Farnborough, Hampshire, GU14 0LX, United Kingdom				
		the en invent contin	ire right, title and interest for the U ion, and in all applications for pater	nited States of America at including any and all reissue application(s), a	cessors, assigns and legal representatives, as defined in 35 U.S.C. §100, in the provisional, non-provisional, divisional, and all Letters Patent, extensions, reissues on known as	
(11)	Insert Identification such as Title, Case Number, or Foreign	(11)	CELESTIAL NAVIGATION SY	/STEM		
	Application Number	(Attor	ney Docket No	), filed on	even date herewith or as	
(12)	Alternative	(12)	U.S. Application Number 16/0	31,655		
	Identification for filed applications	filed	August 31, 2018			

1) Each undersigned agrees to execute all papers necessary in connection with any application and/or patent for the invention and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.

2) Each undersigned agrees to execute all papers necessary in connection with any interference or post-grant proceeding which may be declared concerning any application or patent for the invention and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or post-grant proceeding.

and going forward with such interference or post-grant proceeding. 3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.

5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office to issue any and all patents resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he or she has full right to convey the entire interest herein assigned, and that he or she has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.

6) Each undersigned hereby grants the firm of OLIFF PLC the power to insert on this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

#### In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date	21 September 2018	Inventor Signature	· Matsul	(SEAL)
Date		Inventor Signature	••••••••••••••••••••••••••••••••••••••	(SEAL)
Date		Inventor Signature		(SEAL)
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Date		Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date	21 September 2018	Witness	HEJ DAVIES
Date	21 September 2018	Witness	Est Elsie Strachan

### PATENT REEL: 047079 FRAME: 0536

#### ASSIGNMENT

	Insert	(1)	Stephen Barry FOULKES		(2)	
(1-8)	Legal Name(s)	(3)			(4)	
	of Inventor(s)	(5)			(6)	
		(7)			(8)	
		the un		ficiency of whicl	d other good and valuable consideration paid to each of a are hereby acknowledged, each undersigned agrees to to	
(9)	Insert Name of Assignee	(9)	QINETIQ LIMITED			
(10)	Insert Address of Assignce	(10) Cody Technology Park, Ively Road, Famborough, Hampshire, GU14 0LX, United Kingdom				
		the en	ire right, title and interest for ion, and in all applications for	the United State	ee's heirs, successors, assigns and legal representatives, s of America as defined in 35 U.S.C. §100, in the g any and all provisional, non-provisional, divisional,	
		contin	uation, international, substitu examination certificates that	te and reissue app	plication(s), and all Letters Patent, extensions, reissues	
(11)	Insert Identification such as Title, Case Number, or Foreign	contin		tc and reissue app may be granted o	plication(s), and all Letters Patent, extensions, reissues	
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(11) (12)	such as Title, Case Number, or Foreign	contin and re (11)	examination certificates that	tc and reissue app may be granted o	plication(s), and all Letters Patent, extensions, reissues n the invention known as	

2) Each undersigned agrees to execute all papers necessary in connection with any interference or post-grant proceeding which may be declared concerning any application or patent for the invention and to cooperate with the Assigned agrees to execute all papers and documents and perform any act which may be necessary in connection with 3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with

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In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date	21/09/18	Inventor Signature	3By outres	(SEAL)
Date		Inventor Signature		(SEAL)
Date	ดแกลมีขณะแหน่งเป็นการการเป็นการประการแรกแก่งการการเป็นสายแกรงที่ได้เป็นสายการรับส่งจะการเร	Inventor Signature		(SEAL)
Date		Inventor Signature		(SEAL)
Date		Inventor Signature	·	(SEAL)
Date		Inventor Signature		(SEAL)
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Date	21/09/18	Witness	TC Murel en
Date	21/02/14	Witness	A. E. Winder

### PATENT REEL: 047079 FRAME: 0537

#### ASSIGNMENT

	(1)	Philip John KENT		(2)	
Legal Name(s)	(3)			(4)	
of Inventor(s)	(5)			(6)	
	(7)			(8)	
	the un	dersigned, the receipt and sul	Ticiency of whic	d other good and valuable consideration paid to each of h are hereby acknowledged, each undersigned agrees to r to	
Insert Name of Assignce	(9)	QINETIQ LIMITED			
Insert Address of	(10)	10) Cody Technology Park, Ively Road, Famborough, Hampshire, GU14 0LX, United Kingdom			
	the eni invent contin	ire right, title and interest for ion, and in all applications fo uation, international, substitu	the United State r patent includin te and reissue ap	es of America as defined in 35 U.S.C. §100, in the g any and all provisional, non-provisional, divisional, plication(s), and all Letters Patent, extensions, reissues	
Insert Identification such as Title, Case Number, or Foreign	(11)	CELESTIAL NAVIGATI	ON SYSTEM		
Application Number	(Attor	ney Docket No. 182980		), filed on even date herewith or as	
Alternative	(12)	U.S. Application Number	16/081,655		
Identification for filed applications	filed	August 31, 2018			
	of Inventor(s) Insert Name of Assignce Insert Address of Assignce Insert Identification such as Title, Case Number, or Foreign Application Number Alternative Identification for	of Inventor(s) (5) (7) In con the un- assigne Insert Name of Assignce (9) Insert Address of Assignee (10) (herein the enti- invent contine and res Insert Identification such as Title, Case Number, or Foreign Application Number (Attor Alternative (12) Identification for	of Inventor(s)   (5)     (7)   In consideration of the sum of one of the undersigned, the receipt and suff assign. and hereby does assign, transsign. and hereby does assign, transport Address of Assignee     Insert Address of Assignee   (9)   QINETIQ LIMITED     (10)   Cody Technology Park, Iv     (hereinafter designated as the Assig the entire right, title and interest for invention, and in all applications for continuation, international, substitu and reexamination certificates that is     Insert Identification such as Title, Case Number, or Foreign Application Number   (11)   CELESTIAL NAVIGATION     Alternative   (12)   U.S. Application Number	of Inventor(s)   (5)     (7)   In consideration of the sum of one dollar (\$1.00) and the undersigned, the receipt and sufficiency of which assign and hereby does assign, transfer and set over assign, and hereby does assign, transfer and set over (9)     Insert Name of Assignee   (9)   QINETIQ LIMITED     Insert Address of Assignee   (10)   Cody Technology Park, Ively Road, Famber (hereinafter designated as the Assignee) and Assign the entire right, title and interest for the United State invention, and in all applications for patent includin continuation, international, substitute and reissue ap and reexamination certificates that may be granted or (11)     Insert Identification such as Title, Case Number, or Foreign Application Number   (11)   CELESTIAL NAVIGATION SYSTEM     Alternative   (12)   U.S. Application Number   16/081,655	

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In witness whercof, executed by the undersigned on the date(s) opposite the undersigned name(s).

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Date		Inventor Signature				(SEAL)
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Date		Inventor Signature	·····		5767/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/	(SEAL)
Date		Inventor Signature				(SEAL)
Date		Inventor Signature				(SEAL)
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Date		Inventor Signature			11111111111111111111111111111111111111	(SEAL)

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Date	21 September 2018	Witness	HE J DAVIES
Date	21 September 2018	Witness	E.S.F. Elsie Strachan

### PATENT **REEL: 047079 FRAME: 0538**

## **RECORDED: 10/05/2018**