partment of Commerce FORM PTO-1619A 08-04-1999 Trademark Office Expires 06/30/99 OMB 065 -0027 ATENT PATENTS ONLY TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies) **Submission Type** Conveyance Type **Assignment Security Agreement** New Resubmission (Non-Recordation) License Change of Name Document ID# Correction of PTO Error Other Merger Frame # Reel # U.S. Government (For Use ONLY by U.S. Government Agencies) **Corrective Document** Reel # Frame # Departmental File Secret File Conveying Party(ies) Mark if additional names of conveying parties attached <sup>d</sup> Execution Date Month Day Yea Name (line 1) STEPHENS THOMAS Name (line 2) Execution Date Month Day Second Party 30 Name (line 1) Name (line 2) Receiving Party Mark if additional names of receiving parties attached If document to be recorded CORPORATION CORVIS Name (line 1) is an assignment and the receiving party is not domiciled in the United Name (line 2) States, an appointment of a domestic representative is attached. ALBERT Address (line 1) 7015 (Designation must be a separate document from Address (line 2) Assignment.) 21046-9400 MARYLAND COLUMBIA Address (line 3) **Domestic Representative Name and Address** Enter for the first Receiving Party only. Name Address (line 1) Address (line 2) Address (line 3) Address (line 4) FOR OFFICE USE ONLY 08/03/1999 DHGUYEN 00000122 500477 09317141 40.00 CH 01 FC:581

Public burden reporting for this collection of information is estimated to average approximately 30 minutes per Cover Sheet to be recorded, including time for reviewing the document and gathering the data needed to complete the Cover Sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Chief Information Officer, Washington, D.C. 20231 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB Information Collection Budget Package 0651-0027, Patent and Trademark Assignment Practice. DO NOT SEND REQUESTS TO RECORD ASSIGNMENT DOCUMENTS TO THIS ADDRESS.

Mail documents to be recorded with required cover sheet(s) information to: Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20231

<b>FORM</b>	PTO-1619B
Expires 06/3	30/99

## Page 2

U.S. Department of Commerce Patent and Trademark Office

OMB 0651-0027	<u> </u>	PATENT
Correspondent Name and Address	Area Code and Telephone Number	443-259-4150
Name MICHAEL C. AN	TONE	
Address (line 1) CORVIS CORPORAT	70N- IP DEPARTMENT	
Address (line 2) 7015 ALBEST E	INSTEIN DRIVE	
Address (line 3) f. o. Box 9400		
Address (line 4) COLUMBIA, MD	21046-9400	
Pages Enter the total number of pa including any attachments.	ges of the attached conveyance docu	iment # 3
Application Number(s) or Patent Num	nber(s) Mark	if additional numbers attached
Enter either the Patent Application Number or the I		
Patent Application Number(s)	Pate	nt Number(s)
09/317,141		
If this document is being filed together with a <u>new</u> Pate signed by the first named executing inventor.	ent Application, enter the date the patent applica	ation was Month Day Year
Patent Cooperation Treaty (PCT)		
Enter PCT application number	PCT PCT	PCT
only if a U.S. Application Number	PCT PCT	PCT
has not been assigned.  Number of Properties		
Enter the to	tal number of properties involved.	#
Fee Amount Fee Amount	for Properties Listed (37 CFR 3.41):	\$
Method of Payment: Enclo Deposit Account	osed Deposit Account	
(Enter for payment by deposit account or if add	itional fees can be charged to the account.) Deposit Account Number:	# 500477
	Authorization to charge additional fees:	Yes No
Statement and Signature		
,	elief, the foregoing information is true	
,	original document. Charges to depos	it account are authorized, as
indicated herein.	Mi Mest	
MICHAEL C. 4NONE	Mulall-Anton	7/50/49
Name of Person Signing	Signature	√ Date

FORM PTO-1619C Expires 06/30/99

## RECORDATION FORM COVER SHEET CONTINUATION

U.S. Department of Commerce

OMB 0651-0027		PATENTS C	NLY \	JUL 3 U 199	PATENT
Conveying Pa	=	Mark if addition	nal names of conv	eynd marties att	ned Execution Date  Month Day Year
Name (line 1)	LISTAIR S. PR	ICE	<u> </u>		0730 99
Name (line 2)					Execution Date Month Day Year
Name (line 1)	<u> </u>				
Name (line 2)					Execution Date  Month Day Year
Name (line 1)					World Day Teal
Name (line 2)					
Receiving Par	rty(ies)		Mark if additional n	names of receiving	g parties attached
Enter additional R	Receiving Party(ies)				
Name (line 1)					If document to be recorded is an assignment and the
Name (line 2)					receiving party is not domiciled in the United States, an appointment
Address (line 1)					of a domestic representative is attached. (Designation must be a separate
Address (line 2)		·			document from Assignment.)
Address (line 3)	City		State/Country		Zip Code
Name (line 1)					If document to be recorded is an assignment and the
Name (line 2)					receiving party is not domiciled in the United States, an appointment of a
Address (line 1)					domestic representative is attached. (Designation must
Address (line 2)					be a separate document from Assignment.)
					<del>-</del>
Address (line 3)	City		State/Country		Zip Code
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).					
	tent Application Numbe				Number(s)
					······································

## **ASSIGNMENT OF INVENTION**

For For For For By:		al Application	
In consider	ation of the payment by ASSIGNEE(S) to ASS is hereby acknowledged, and for other good a	, ,	Oollar (\$1.00),
ASSIGNOR(S)			
Thomas D. Stepher	ns 7015 Albert Einstein Drive, Columbia, Address		ustralian ationality
Mark A. Kelty name of Assignor	7015 Albert Einstein Drive, Columbia, Address		.S.A
Alistair J. Price	7015 Albert Einstein Drive, Columbia,		.K. ationality
	ssignment is by person or entity to whom inve	ention was previously assigned	auditality.
Recorded on	Reel	Frame	
horoby calle accion	se and transfers to		
	s and transfers to		
ASSIGNEE(S):	on 7015 Albert Einstein Drive	Delaware Corporati	on
hereby sells, assign  ASSIGNEE(S):  CORVIS Corporation  (name of ASSIGNEE)		Delaware Corporati	on 
ASSIGNEE(S): CORVIS Corporatio	on 7015 Albert Einstein Drive Columbia, MD 21046-9400	Nationality	on 
ASSIGNEE(S):  CORVIS Corporation (name of ASSIGNEE)  and the successors	on 7015 Albert Einstein Drive Columbia, MD 21046-9400 Address	Nationality  BIGNEE(S)  bwing)	on 
ASSIGNEE(S):  CORVIS Corporation (name of ASSIGNEE)  and the successors  the entire ri	on 7015 Albert Einstein Drive Columbia, MD 21046-9400 Address , assigns and legal representatives of the ASS (complete one of the folloght, title and interest for the United States and	Nationality  BIGNEE(S)  wing) I its territorial possessions	
ASSIGNEE(S):  CORVIS Corporation  (name of ASSIGNEE)  and the successors  \[ \text{\text{\text{the entire rise}}} \]  an undivide	on 7015 Albert Einstein Drive Columbia, MD 21046-9400 Address , assigns and legal representatives of the ASS (complete one of the folloght, title and interest for the United States and	Nationality  BIGNEE(S)  wing)  I its territorial possessions %) interest for the United S	
ASSIGNEE(S):  CORVIS Corporation (name of ASSIGNEE)  and the successors  the entire ri an undivided territorial points and in all for	on 7015 Albert Einstein Drive Columbia, MD 21046-9400 Address , assigns and legal representatives of the ASS (complete one of the folloght, title and interest for the United States and percent (	Nationality  SIGNEE(S)  wing)  I its territorial possessions %) interest for the United sare also to be assigned)	States and its
ASSIGNEE(S):  CORVIS Corporation  (name of ASSIGNEE)  and the successors  \text{\text{\text{\text{the entire ri}}}} an undivided territorial points  \text{\text{\text{\text{and in all fowhich are defined.}}}	n 7015 Albert Einstein Drive Columbia, MD 21046-9400 Address  , assigns and legal representatives of the ASS  (complete one of the folloght, title and interest for the United States and percent (percent (percent))  (check the following box, if foreign rights preign countries, including all rights to claim precent (percent)	Nationality  SIGNEE(S)  wing) I its territorial possessions %) interest for the United sare also to be assigned) iority, in and to any and all impressions	States and its
ASSIGNEE(S):  CORVIS Corporation  (name of ASSIGNEE)  and the successors  \text{\text{\text{\text{the entire ri}}}} an undivided territorial points  \text{\text{\text{\text{and in all fowhich are defined.}}}	n 7015 Albert Einstein Drive Columbia, MD 21046-9400 Address  , assigns and legal representatives of the ASS  (complete one of the folloght, title and interest for the United States and percent (	Nationality  SIGNEE(S)  wing) If its territorial possessions %) interest for the United S  are also to be assigned)  iority, in and to any and all impresented the control of the contr	States and its
ASSIGNEE(S):  CORVIS Corporation  (name of ASSIGNEE)  and the successors  \text{\text{\text{\text{the entire ri}}}} an undivided territorial points  \text{\text{\text{\text{and in all fowhich are defined.}}}	n 7015 Albert Einstein Drive Columbia, MD 21046-9400 Address  , assigns and legal representatives of the ASS (complete one of the folloght, title and interest for the United States and percent (percent (percent)) (check the following box, if foreign rights percent countries, including all rights to claim profisclosed in the invention entitled:  al Transmission System and Amplifier Control (check and complete (a), (b), (c),	Nationality  SIGNEE(S)  wing) If its territorial possessions %) interest for the United S  are also to be assigned)  iority, in and to any and all impresented the control of the contr	States and its
ASSIGNEE(S):  CORVIS Corporation (name of ASSIGNEE)  and the successors  the entire ri an undivided territorial position and in all for which are displayed and which is for any	n 7015 Albert Einstein Drive Columbia, MD 21046-9400 Address  , assigns and legal representatives of the ASS (complete one of the folloght, title and interest for the United States and percent (percent (percent)) (check the following box, if foreign rights percent countries, including all rights to claim profisclosed in the invention entitled:  al Transmission System and Amplifier Control (check and complete (a), (b), (c),	Nationality  SIGNEE(S)  In the service of the United State also to be assigned)  It is are also to any and all impresent to the United State of th	States and its

Assignment of Invention-page 1 of 3

DOCKET N	IO. 990521		PATENT
(c) [	U.S. provisional application	n naming the above inventor(s) for the above-entitled inv	vention
(-,		Mailed:	
	☐ To comply with 37 CFR	3.21 for recordal of this assignment, ASSIGNOR(S) signst my attorney to insert below the filing date and applications.	
(d) 🛛	U.S. application no.:09/317	7 <u>,141</u> filed on <u>May 21, 1999</u>	
(e) 🗌	International application no and amended on	o filed on	
(f) 🔲	U.S. patent no.	_issued	
,,	-	o which correspondence is to be sent regarding patent n	naintenance
(also ch	neck (g), if foreign application	on(s) is also being assigned)	
(g)	and to, all Letters Patent to	nt thereof in a foreign country, including the right to clain be obtained for said invention by the above application wal, or substitute thereof, and as to letters patent any re	or any
		hat no assignment, sale, agreement or encumbrance ha onflict with this assignment;	as been or will
pertinent fa be known a proceeding any and all application,	cts and documents relating and accessible to ASSIGNO related thereto and will pror papers, instruments or affid	hat ASSIGNEE(S) will, upon its request, be provided proto said invention and said Letters Patent and legalizequix R(S) and will testify as to the same in any interference, mptly execute and deliver to ASSIGNEE(S) or its legal relavits required to apply for, obtain, maintain, issue and e ters Patent and said equivalents thereof which may be recof.	valents as may litigation or representatives nforce said
IN WITNES	SS WHEREOF, ASSIGNOR	(S) have hereunto set hand and seal this:	
		ne as the date of execution of the declaration, if item (a) was checked	1 above.
Thomas D.  Name of Assignment		Signature of Assignor or	Date
•	of Person entitled to sign on	Person entitled to sign on behalf of Assignor	
Mark A. Kel		Mala Kelly Signature of Assignor or	7/30/99
	of Person entitled to sign on	Person entitled to sign on behalf of Assignor	*Date *

Signature of Assignor or

Person entitled to sign on behalf of Assignor

behalf of Assignor

Alistair J. Price
Name of Assignor or

behalf of Assignor

Name & Title of Person entitled to sign on

Place of signing of assignment

City/County: State

Howard

Country

NOTE:

Before me this \_\_\_\_ day of \_\_\_ JULY

\_\_\_\_, 19<u>99</u> personally appeared

Thomas D. Stephens, Mark A. Kelty, and Alistair J. Price to me known to be the person(s) who  $\square$  is  $\square$  are described in and who executed the foregoing assignment instrument and acknowledged its contents of their own free will for the purpose therein expressed.

Notary Public or Consular Officer of the United States of America

Notarization of this document is only prima facie evidence of execution, 35 USC 261.

My Commission expires March 13, 2003