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PTO/SB/16 (02-01)  
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PTO  
60/330486  
10/23/01

**PROVISIONAL APPLICATION FOR PATENT COVER SHEET**  
This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).  
Express Mail Label No.  

INVENTOR(S)					
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)			
Daniel M.	Fischer	Waterloo, CANADA			
Dan G.	Radut	Waterloo, CANADA			
Michael F.	Habicher	Cambridge, CANADA			
<input checked="" type="checkbox"/> Additional inventors are being named on the <u>1</u> separately numbered sheets attached hereto					
TITLE OF THE INVENTION (280 characters max)					
MULTIFUNCTIONAL CHARGER SYSTEM AND METHOD					
Direct all correspondence to: <b>CORRESPONDENCE ADDRESS</b>					
<input type="checkbox"/> Customer Number <span style="border: 1px solid black; padding: 2px;"> </span>		→		Place Customer Number Bar Code Label here	
OR Type Customer Number here					
<input checked="" type="checkbox"/> Firm or Individual Name	Krishna K. Pathiyal, Esq.				
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ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification	Number of Pages	<span style="border: 1px solid black; padding: 2px;">19</span>	<input type="checkbox"/> CD(s), Number	<span style="border: 1px solid black; padding: 2px;"> </span>	
<input checked="" type="checkbox"/> Drawing(s)	Number of Sheets	<span style="border: 1px solid black; padding: 2px;">4</span>	<input checked="" type="checkbox"/> Other (specify)	Power of Attorney	
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76					
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT					
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.				FILING FEE AMOUNT (\$) <span style="border: 1px solid black; padding: 5px; display: inline-block;">160.00</span>	
<input type="checkbox"/> A check or money order is enclosed to cover the filing fees					
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: <span style="border: 1px solid black; padding: 2px;">50-1995</span>					
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.					
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____					

Respectfully submitted, Date 22/ 10 / 01

SIGNATURE \_\_\_\_\_ REGISTRATION NO. 44435

TYPED or PRINTED NAME Krishna K. Pathiyal, Esq. (if appropriate) Docket Number: 850-001

TELEPHONE (519) 888-7465 (Ext 2535)

**USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT**

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

**PROVISIONAL APPLICATION COVER SHEET**  
*Additional Page*

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Docket Number	850-001	Type a plus sign (+) inside this box →	+
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INVENTOR(S)/APPLICANT(S)		
Given Name (first and middle (if any))	Family or Surname	Residence (City and either State or Foreign Country)
Quang A. Jonathan T.	Luong Malton	Kitchener, CANADA Kitchener, CANADA

Number 1 of 1

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October 22, 2001

VIA COURIER

**BOX PROVISIONAL APPLICATION**  
Assistant Commissioner for Patents  
Washington, D.C. 20231  
USA

Dear Sir:

**Re: NEW PROVISIONAL PATENT APPLICATION**  
**Inventor(s): Daniel M. Fischer; Dan G. Radut; Michael F. Habicher; Quang A. Luong;**  
**Jonathan Malton**  
**Title: MULTIFUNCTIONAL CHARGER SYSTEM AND METHOD**  
**Our Ref: 850-001**

Enclosed in connection with this new provisional patent application are the following:

	<u>Number of Pages</u>
(1) Provisional Application for Patent Cover Sheet (including fee payment and method)	2
(2) Fee Transmittal Sheet	1
(3) Specification	19
(4) Drawing(s) <span style="margin-left: 20px;">No. of Figures: 4</span>	4
(5) Power of Attorney	5
(6) Receipt Card	1

Payment of Fees:

In sum, please charge the following fees to our deposit account as indicated on the Cover Sheet:

Filing fee of \$160.00

Yours very truly,

Krishna K. Pathiyal  
Patent Agent

Encl.

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## Multifunctional Charger System and Method

### CROSS-REFERENCE TO RELATED APPLICATION

This application is related to the following prior application: System and  
5 Method for Adapting a USB to Provide Power for Charging a Mobile Device,  
United States Provisional Application No. 60/273021, filed March 1<sup>st</sup>, 2001. This  
prior application, including the entire written description and drawing figures, is  
hereby incorporated into the present application by reference.

10

### BACKGROUND

#### 1. FIELD OF THE INVENTION

This invention relates generally to power adapters and battery chargers.  
More particularly, the invention provides a USB (Universal Serial Bus) power  
adapter and battery charger for charging a first battery at a mobile device and a  
15 second battery at the charger simultaneously or independently. The invention is  
particularly well suited for use in Personal Digital Assistants, mobile  
communication devices, cellular phones, and wireless two-way e-mail  
communication devices, which may have a USB interface (collectively referred to  
herein as "mobile devices"). The invention provides utility, however, in any  
20 device that may need to draw power via the USB interface and/or has a  
rechargeable battery.

FILED IN CASE NO. 03-10000

2. DESCRIPTION OF THE RELATED ART

Supplying power to a mobile device involves the participation of a mobile device on one hand, as well as the participation of a power source on the other.

5 On one hand, most mobile devices provide a first power interface for receiving power from a power source, for instance to recharge a battery, and a second data interface for communicating that is separate from the power interface. Although it is desirable to have a combined power and data interface, most combined interfaces are non-standard so that one mobile device provided by one  
10 manufacturer with one combined interface cannot cooperate with the combined interfaces of other manufacturers.

Furthermore, many mobile devices now have USB (Universal Serial Bus) interfaces for communicating, although they still maintain a separate power interface, such as a barrel connector, for receiving power.

15 However, a USB chargeable mobile device provided according to System and Method for Adapting a USB to Provide Power for Charging a Mobile Device, United States Provisional Application No. 60/273021, filed March 1<sup>st</sup>, 2001, has a single USB interface for both communicating and recharging a battery. Given that USB connectors are popular widely supported in industry, a USB chargeable  
20 device solves the problem of the combined interface at a USB chargeable mobile device.

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