

**Logiccode D960 Communication Unit**  
**Logiccode D960C Communication Unit & Charger**  
**Logiccode D900CC Charger**

**User Manual**

**English Version 0.4**

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## Safety Precautions

### Safety Precautions

Please read the following safety precautions before using the Communication Unit. The safety precautions provided below intend to assist you in using the Communication Unit correctly and safely, preventing the risks of causing injuries to you or any person, or damage to any equipment.

#### **WARNING**

- If smoke, abnormal odours or noises come from the Communication Unit, immediately unplug the AC adaptor from the wall socket and contact your nearest dealer. *Failure to do so may cause fire or electric shock.*
- Never use the Communication Unit for charging anything other than the specified battery cartridges. *Doing so may cause heat, battery-rupture, or fire.*
- If foreign material or water gets into the Communication Unit, immediately unplug the AC adaptor from the wall socket and contact your nearest dealer. *Failure to do so may cause fire or electric shock.*
- Never bring any metals into contact with the output terminals. *Doing so may produce a large current through the Communication Unit, resulting in heat or fire.*
- Use the dedicated AC adaptor only. *Failure to do so may result in fire.*
- Never use the Communication Unit on the line voltage other than the specified level. *Doing so may cause the Communication Unit to break or burn.*

#### **CAUTION**

- Do not place the Communication Unit in anyplace where there is oily smoke or steam; for example, near a cooking range or humidifier. *Doing so may result in fire or electric shock.*
- Never put the Communication Unit in places where there are excessively high temperatures, such as inside closed-up automobiles, or in places exposed to direct sunlight. *Doing so may affect the housing or parts, resulting in fire.*
- Never disassemble or modify the Communication Unit. *Doing so may result in an accident such as fire or malfunction.*
- Avoid using the Communication Unit in extremely humid or dusty areas, or where there are drastic temperature changes. *Moisture or dust may get into the Communication Unit, resulting in malfunction, fire or electric shock.*
- Never cover or wrap up the Communication Unit or AC adaptor in a cloth or a blanket. *Doing so may cause the unit heating up inside, deforming its housing, and resulting in fire.*

# Introduction

## 1. Introduction

The D960 Communication Unit, D960C Communication Unit and Battery Charger, and D900CC Battery Charger developed and manufactured by MillionTech Development Ltd., are designed for data communication performed on CASIO® DT-900 Handy Terminals. The D960/D960C/D900CC are the low-cost devices with high reliability that possess many user-friendly functions and comprehensive features.

The communication architecture uses RS232 to IrDA Converter and Charger for enabling IrDA (Compliance to IrDA 1.0 physical layer specification) wireless data communication and battery charging for CASIO® DT-900 Handy Terminal through a standard RS232 port.



## System Requirements

### 2. System Requirements

- IBM PC 486DX4-100 MHz or higher or compatible system
- Windows® ME, Windows® 2000, Windows® XP

## Communication Interface

### 3. Communication Interface

#### D960/D960C Communication Unit For DT-900 Handy Terminal

- PC Interface: RS232
  - 9.6Kbps to 115.2Kbps
- Handy Terminal Interface: IrDA, SIR
  - Enable IrDA wireless data communication
  - Support SIR (9.6Kbps to 115.2Kbps) mode

#### D900CC Charger Unit For DT-900 Handy Terminal

- NIL

## Product Features

### 4. Product Features

	D960	D960C	D900CC
<b>Connection</b>	<ul style="list-style-type: none"> <li>▪ Support RS232 connection</li> </ul>		<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>
<b>Power Supply</b>	<ul style="list-style-type: none"> <li>▪ Power Supply to Handy Terminal</li> </ul>		
	<ul style="list-style-type: none"> <li>▪ Can be powered from USB bus or power adaptor (9V-12V, 1A)</li> </ul> <p> <i>Works fine when plugged directly into the back of your computer, or when plugged into a hub with an external power supply.</i></p>		<ul style="list-style-type: none"> <li>▪ Powered from power adaptor (9V-12V, 1A)</li> </ul>
<b>Power Consumption</b>	USB Power input: 5V, 450mA		<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>
	<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>	<ul style="list-style-type: none"> <li>▪ Power Adaptor input: 9V-12V, 1A</li> </ul>	
<b>Charging Terminal</b>	<ul style="list-style-type: none"> <li>▪ DO NOT support battery charge</li> </ul>	<ul style="list-style-type: none"> <li>▪ Dual charging terminals: DT-900 and Lithium-ion sub battery pack</li> </ul>	
		<ul style="list-style-type: none"> <li>▪ Charges battery for handheld product DT-900 through a standard USB port (Compliance to USB 1.1 specification)</li> </ul>	<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>

## Product Features

	D960	D960C	D900CC
<b>Charging Terminal, cont'd</b>		<ul style="list-style-type: none"> <li>☰ <i>When powered from USB bus, DT-900 charging has priority over sub battery pack charging. The sub battery pack will be charged only when DT-900 is not placed in the Communication Unit or after DT-900 is fully charged when it is placed in the Communication Unit.</i></li> </ul>	
<b>Charging Current</b>	<ul style="list-style-type: none"> <li>▪ DO NOT support battery charge</li> </ul>	<ul style="list-style-type: none"> <li>▪ Charging current (using USB Power): 300mA max</li> </ul>	<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>
		<ul style="list-style-type: none"> <li>▪ Charging current (using Power Adaptor): 300mA max</li> <li>▪ Specification of DT-900 Lithium-ion battery pack: 3.6V, 600mAH</li> </ul>	
<b>Communication</b>	<ul style="list-style-type: none"> <li>▪ Enable IrDA wireless data communication</li> </ul>		<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Support SIR (9.6Kbps to 115.2Kbps) mode</li> </ul>		<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>
	<ul style="list-style-type: none"> <li>▪ No driver required, RS232 to IrDA conversion</li> </ul>		<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>
<b>Communication Software</b>	<ul style="list-style-type: none"> <li>▪ Communication between DT-900 and PC via RS232 interface using Casio Multidrop communication utility</li> </ul>		<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>



# CASIO MultiDrop

## 5. CASIO MultiDrop

CASIO MultiDrop is the communication software used for communication and data transmission between DT-900 Handy Terminal and PC via RS232 interface.

### 5.1 Settings for data transmission

- On **PC**:
  - After installing the MultiDrop programme, double-click “**multi32e**” to configure settings, or from Windows Start menu, select “**Program Files (P)**” > “**CASIO MULTIDROP**”.
  - From “**Settings(F)**” pull-down menu, select the following to configure settings:
    - “**Operative setting**”, to input the number of connecting I/O boxes.
    - “**File setting**”, to input the path for data storage and transmission.
    - “**Communication setting**”, make sure “**COM speed**” aligns with the Baud Rate setting found at the bottom of the Communication Unit (i.e. the covered Dip Switch). Check the Dip Switch setting against Appendix A “Baud Rate Setting for D960/D960C” to determine the PC “**COM speed**” configuration.
- On **DT-900 Handy Terminal**:
  - Press at the same time the keys [**S**], [**.**] and [**PW**] to open DT-900 and enter the System Menu, then select “**4: TRANSMIT**”.
  - At the “TRANSMIT” screen, make sure it has the following settings:
    - 5: PROTOCOL: MLT (stands for MultiDrop)
    - 6: PORT: IR
    - 7: SPEED: Must align with PC’s COM speed and the Communication Unit’s Baud Rate setting



## CASIO MultiDrop

### 5.2 Sending and receiving data

Sending and receiving of data files are both commanded from DT-900 whereas status of transmitted data is displayed on the PC.

- On **PC**:
  - From MultiDrop programme, click "**Execute(R)**" to call up the screen for displaying data transmission status.
  - The transmitted data will be displayed at the right-hand column "Connected HTs" in varying colours (white, blue and red) to indicate its transmission status:
    - White: Waiting
    - Blue: Done
    - Red: Error end
- On **DT-900 Handy Terminal**:
  - At the "TRANSMIT" screen, select "**4: UTILITY**".
  - At the "UTILITY" screen:
    - Make sure "5: FILE MODE" is set to "NORM".
    - Select "**1: SEND FILE**" or "**2: RECEIVE FILE**", the types of file and the host/received drive.
    - Then put DT-900 on the Communication Unit to start transmission.

# Specifications

## 6. Specifications

### 6.1 D960 Hardware Specifications



D960 Front



D960 Rear



## Specifications

Block	Item	Specification
Power Supply	Power adaptor	9V – 12V, 1A
	USB power	5V, 500mA
IrDA	Standard	IrDA 1.0 Physical Layer
USB	Standard	USB Ver. 1.1
Serial Port	Standard	RS-232C, 9pin Female D-connector
Baud Rate	Standard	11.52k, 57.6k, 38.4k, 19.2k, 9.6k
Power Supply to Handy Terminal	Output voltage	DC 5V $\pm$ 10%



# Specifications

## 6.2 D960C Hardware Specifications



D960C Front



D960C Rear

## Specifications

Block	Item	Specification
Power Supply	Power adaptor	9V – 12V, 1A
	USB power	5V, 500mA
IrDA	Standard	IrDA 1.0 Physical Layer
USB	Standard	USB Ver. 1.1
Serial Port	Standard	RS-232C, 9pin Female D-connector
Baud Rate	Standard	11.52k, 57.6k, 38.4k, 19.2k, 9.6k
Power Supply to Handy Terminal	Output voltage	DC 5V $\pm$ 10%
<b>Battery Charger</b>		
Charging Terminal for DT900 or Sub Battery Pack	Output voltage	DC 4.2V $\pm$ 5%
	Output current	<ul style="list-style-type: none"> <li>▪ At trickle charge: 30mA</li> <li>▪ At quick charge: 300mA</li> </ul>
	Charge detecting voltage	DC 4.05V $\pm$ 5%
	Charge completion detecting current	DC 30mA
	Full charging duration	4 hours
	Battery type	Lithium-ion battery pack: 3.7V, 600mAH/900mAH



## Specifications

### 6.3 D900CC Hardware Specifications (Charger only)



D900CC Front



D900CC Rear



## Specifications

Block	Item	Specification
Power Supply	Power adaptor	9V – 12V, 1A
Power Supply to Handy Terminal	Output voltage	DC 5V $\pm$ 10%
Charging Terminal for DT900 or Sub Battery Pack	Output voltage	DC 4.2V $\pm$ 5%
	Output current	<ul style="list-style-type: none"> <li>▪ At trickle charge: 30mA</li> <li>▪ At quick charge: 300mA</li> </ul>
	Charge detecting voltage	DC 4.05V $\pm$ 5%
	Charge completion detecting current	DC 30mA
	Full charging duration	4 hours

# Troubleshooting

## 7. Troubleshooting

The following table shows some possible error on using the D960/D960C/D900CC Communication Unit and Charger, and appropriate actions are recommended in case of such occurrence. If problem persists, please contact our technical support team.

Problem	Possible Cause	Recommended Action
<b>Difficulty to make connection with DT900 in Windows 2000 / XP</b>	▪ RS232 cable failure	▪ Check the connection of RS232 cable
	▪ Incorrect Baud Rate	▪ Check the Baud Rate switch at the bottom of communication unit
	▪ Power failure	▪ Check the power cable ▪ Check the USB cable
<b>Battery Charging fault</b>	▪ Incorrect battery type	▪ Only accept 3.7V lithium-ion battery pack

## Technical Support

### 8. Technical Support

If you encounter any technical problem, please contact us through:

**Million Tech Dev. Ltd.**

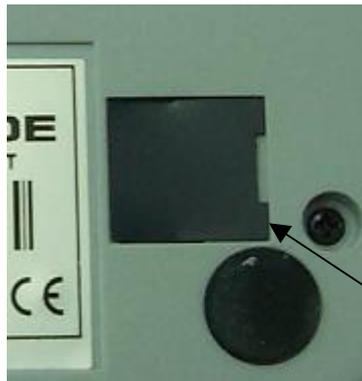
**Unit D, 2/F Leroy Plaza, 15 Cheung Shun Street, Cheung Sha Wan, Kowloon,  
Hong Kong.**

**Web site: [http:// www.milliontech.com/](http://www.milliontech.com/)**

# Appendix

## Appendix A Baud Rate Setting for D960/D960C

	DIP SWITCH		
	1	2	3
115.2k	ON	ON	ON
57.6k	OFF	ON	ON
38.4k	ON	ON	OFF
19.2k	ON	OFF	ON
9.6k	OFF	OFF	ON



Covered Dip Switch



Uncovered Dip Switch

- End -

