Mobiltex OVC3 Hardware User Manual

CONFIDENTIAL MATERIAL

RESTRICTED PROPRIETARY INFORMATION

REVISION HISTORY

Rev	Start Date	Approval Date	Description	Prepared By
001	13 June 2002		Preliminary manual released for FCC certification.	Scot Kornak

Contents

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by Mobiltex Data, Ltd. could void the user's authority to operate the OVC3.

Caution: No user serviceable parts inside. Return the unit to Mobiltex Data, Ltd. for servicing.

1. Introduction

The Mobiltex OVC3 On Vehicle Computer is a general-purpose computing platform designed to be installed in industrial vehicle environments. The OVC3 runs the Microsoft Windows CE™ operating system which allows a wide variety of customer specific applications to be supported. The operation of the OVC3 is determined by the application software specific to the customer requirements and it is not addressed in this document.

The OVC3 has five external RS232 serial ports that provide the interfaces to external equipment. An internal serial port allows optional peripherals to be installed inside the OVC3. Three button and seven LED indicators provide the basic user interface for the OVC3.

A built-in 915 MHz short range transceiver provides a bi-directional wireless data link to other compatible devices including the HCD1 and VCD1. A real-time clock provides the time to the end-user program. Power management hardware automatically starts the OVC3 when the vehicle starts and provides an orderly shutdown when the vehicle is off or when the power is out of tolerance.

The OVC3 functionality can be expanded with field installable Compact FLASH and PCMCIA cards. The Compact FLASH non-volatile storage provides a rugged medium for storing programs and large amounts of data.

2. Front Panel Buttons

2.1 A – Test Button

The Switch A Test Button is read by the application program. It is typically used to initiate a self-test function in the application software. This button is under software control and may be used for any end-user function.

2.2 B –Reset Button

The Switch B Reset Button initiates a hardware reset of the OVC3. This function is hardware controlled and may not be changed.

2.3 C – Aux Button

The Switch C Aux Button is read by the application software and may be used for any end-user function.

3. Front Panel Indicators

The OVC3 has seven tri-color LED indicators that can be red, or green, or yellow. Some indicators are under software control and the application program determines their use. Other indicators are under hardware control and their function cannot be changed.

3.1 LED1 - PWR / Status

LED1 is typically used as a Power/Status indicator. It is green under normal operation and flashing red if a fault occurs. However, this indicator is under software control and can be used for any end-user function.

3.2 LED2 – Short Range Wireless

LED2 shows that activity of the short range radio link. It is green when a link is established with another wireless device, and red when sending or receiving data. It is off when there is no link with a wireless device.

3.3 LED3 – COM4 Activity

LED3 shows that activity of serial port COM4. It is green when receiving data, red when sending data, and off otherwise.

3.4 LED4 – COM5 Activity

LED4 shows that activity of serial port COM5. It is green when receiving data, red when sending data, and off otherwise.

3.5 LED5 – General Purpose

LED5 is under software control and can be used for any end-user function by the application software.

3.6 LED6 – General Purpose

LED6 is under software control and can be used for any end-user function by the application software.

3.7 LED7 – General Purpose

LED7 is under software control and can be used for any end-user function by the application software.

4. Rear Panel Connectors

4.1 Power Connector

The power connector accepts 8 to 28 Volt DC power for the OVC3. An ignition input on the connector enables the OVC3 to determine whether the vehicle ignition is on.

4.2 COM1 Serial Port

The COM1 serial port is a full RS232 serial port available for use in the end-user application.

4.3 COM4 Serial Port

The COM4 serial port is a RS232 serial port available for use in the end-user application. Vehicle power with fuse protection is available on this connector for powering external equipment.

4.4 COM5 Serial Port

The COM5 serial port is a full RS232 serial port available for use in the end-user application.

4.5 Auxiliary Connector

The Auxiliary Connector provides 2 serial ports with transmit and receive, 2 digital inputs, 2 digital outputs, and fused vehicle power. This IO is general purpose and is available to the end-user application.

5. Internal Connectors

Two additional ports are available internally to interface to optional devices installed inside the OVC3.

5.1 COM3 Serial Port

The COM3 serial port is a logic level serial port available for use in the end-user application.

5.2 COM7 Wireless

An integrated 915 MHz wireless transceiver with a front panel antenna provides short range wireless communications with external devices. The COM7 serial port is used to communicate with the transceiver.

6. Installation

1. Mount the OVC3 to a secure, dry, and safe location within the vehicle.
2. Connect +13.8 Volt DC vehicle power to the Power connector.
3. Connect the ignition input on the Power connector to a point that has vehicle power only when the ignition is on.
4. Connect external equipment to the serial ports and Auxiliary connector as required.
5. Apply power and verify that the OVC3 Power indicator turns on.

Once power is applied, the operation of the OVC3 is determined by the application software which is not covered by this manual.

7. Specifications

Dimensions:	7.3” x 8.2” x 2.0”
Housing:	Rugged Aluminum Extruded Case
COM1 Connector:	Extemal, DB9M Connector
COM3 Connector:	Internal, Flex 22 Connector
COM4 Connector:	External, DB9F Connector
COM5 Connector:	External, DB9F Connector
Auxiliary Connector:	DB26F-HD Connector, 2 Serial Ports, 2 Digital Inputs, 2 Digital Outputs
Wireless Radio:	902 to 926Mhz, Part 15.249
Operating System:	Microsoft Windows CE™
Power:	8 to 28 Volts DC
Real Time Clock:	Yes
PCMCIA:	1 Internal Slot, Type I or II
Compact Flash:	1 Internal Slot, Type I or II