EBOX EB-AN Series

User's Guide

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Safety Information

WARNING

- Do not expose EBOX EB-AN to rain or moisture, in order to prevent shock and fire hazard.
- Never install EBOX EB-AN in wet locations.
- Do not open the cabinet to avoid electrical shock. Refer to your nearest dealer for qualified personnel servicing.
- Never touch un-insulated terminals or wire unless your power adapter and display monitor are disconnected.
- Locate EBOX EB-AN as close as possible to the socket outline for easy access and to avoid force caused by entangling of your arms with surrounding cables from the EBOX EB-AN.
- Avoid using or installing the modem to the serial port during a storm or a lightning.
- Do not use the modem or a telephone to report a gas leak in the vicinity of the leak.
- USB connectors are supplied with Limited Power Sources.

DO NOT ATTEMPT TO OPEN OR TO DISASSEMBLE THE CHASSIS (ENCASING) OF THIS PRODUCT. PLEASE CONTACT YOUR NEAREST DEALER FOR SERVICING FROM QUALIFIED TECHNICIAN.

Regulatory

FCC Class A Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference in which case the user will be required to correct the interference at his own expense. Testing was done with shielded cables. Therefore, in order to comply with the FCC regulations, you must use shielded cables with your installation.

WARNING

This product complies with EN55022 class A. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference - causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

Manufacturer's Declaration of Conformity

This equipment has been tested and found to comply with the requirements of European Community Council Directives 89/336/EEC and 73/23/EEC relating to electromagnetic compatibility and product safety respectively.

Attention

This product has been designed and certified to comply with certain regulatory requirements pertaining to Information Technology Equipment. This product has not been designed for use as a medical device. Without limitation of the foregoing, this product is not intended and has not been certified for use in a hospital or clinical environment to diagnose, treat, or monitor patients under medical supervision, and is not intended and has not been certified to make physical or electrical contact with patients, nor to transfer energy to or from patients and/or to detect such energy transfer to or from patients.

Purchase Agreement

Purpose:

In accordance to the general commercial conduct of Trust and Fair Trade, herewith below is the agreement for the protection for both parties, DMP and Users in pursuant of trading.

Product Description:

With this product, herewith also known as EBOX EB-AN Series, which is a simplified and economical design of an embedded device for Special Purpose Personal Computing. The basic specifications of this product is comprised of Cortex-A7 ARM Dual-Core design, and with onboard 1GB DDR3 System memory, HDMI display, USB, COM port, SD Card Slot and LAN Interfaces.

Distribution Convention:

1. This Product includes a box, an inner case, a EBOX EB-AN, and Power adaptor. Upon receiving this product, kindly please refer to the User' Manual to check for the contents and appearance of this product; contact immediately your nearest dealer or DMP office for any defective or missing parts. The supplier will not be responsible for any reported discrepancy there after the expiration period of 3-days from the received date.

2. In consideration of transportation and the cost of storage, the supplier provides to the distributors a warranty of 12-months. This warranty covers the failure caused by hardware breakdown (excluding hard drives), but does not cover the act of misuse and mishandling.

3. The supplier will not accept unknown post, therefore if you wish to repair or to return your goods – kindly please contact your nearest dealer to make your declaration, and at the same time, apply for an RMA number (RMA stands for Return Merchandise Authorization – please ask for RMA form and fill-up for authorization).

4. The freight for return goods for repair will follow the International customary practice and convention: Both parties is to pay for freight of one shipment each. The shipper is required to prepay the freight from the place of origin (This means that the returnee (user) covers the freight for return goods, while the Supplier covers the freight for goods after the repair).

5. Obsolete warranty is referred to as: (1) Expiration of warranty or (2) Damage due to misuse within warranty. The Supplier will be taken into consideration of the circumstances, to provide repair service with charges expense for obsolete warranty. This expense includes the cost of material and the cost of labor.

Note: If there is other particular issue not listed in the above conditions, both parties agreed to follow the General Law of Commerce with fair and reasonable discussion in handling and resolving the argument.

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Chapter 1

Unpacking Your EBOX EB-AN Unit

Congratulation! You have just acquired EBOX EB-AN Series, please check the following items:

Packing List:

Item No.	Description	Q'ty
1	EBOX EB-AN Unit	x 1
2	Max. 22.5 watts External Power Adaptor, Vin: 100~240V AC 50/60Hz.	x 1

Note: The accessories are subject to change without immediate notice.

Check Before Use

1. EBOX EB-AN Unit

2. AC Power Adaptor

Power supplies available in US, UK, EU and AU types.

Preface

EBOX EB-AN Series: VESA Mounting Avaliable

EBOX EB-AN Series is a revolutionary device which is especially designed for limited physical space and temperature concerns. No matter you are in a jammed office, a crowded place, or public transportation, EBOX EB-AN can be easily integrated with a VESA LCD to bring it to access at any time.

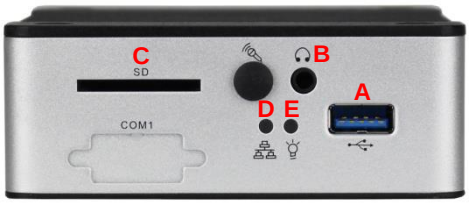
It can be attached to any VESA mounting fixture; allowing it to be securely mounted onto desks, walls, or buildings, and thereby optimizes your work area. It can also be attached directly to any size LCD for a mobile system for the use at trade shows, presentations, promotions, etc. Unlike traditional portable laptop design, EBOX EB-AN Series can be used with a large size LCD. Furthermore, with FANLESS design, the EBOX EB-AN Series is ideal to be used in the environment where temperature demand is critical.

So, if you are looking for a device that is able to provide you with more mobility, space, less power consumption, then the EBOX EB-AN Series will be surely meet your need.

The VESA® FDMI™ Standard defines mounting interfaces, hole patterns and associated cable/power supply locations for LCD monitors, plasma displays and other flat panel devices, Unit designed to fit this standard to attached monitor quickly and easily.

Chapter 2

EBOX EB-AN Series Overview



Front Panel

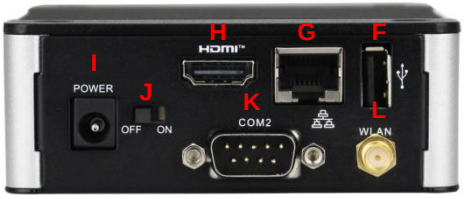
A: USB 3.0 port
For connection to devices with USB 3.0 interface.

B: Line Out
Audio Line output.

C: SD Card Slot
SD Card card reader only.

D: Ethernet LED
Green flashing LED indicates Ethernet activity.

E: Power LED
Power LED lights up when system is turned on.



Back Panel

F: USB 2.0 port
For connection to devices with USB 2.0 interface.

G: RJ-45 Ethernet port
Gigabit Ethernet.

H: HDMI Output port
For HDMI display output.

I: Power Jack
Input Voltage supports DC +12V~+24V.

J: Power Switch
Power On/Off switch.

K: COM port
COM port for RS-232 interface.

L: WLAN Antenna
For External WLAN Antenna.

System Specifications

CPU

Realtek RTD1195 dual core ARM Cortex-A7 CPU 1.2Ghz

Main Memory

1GB DDR3 (P/N: EB-AN01-E8BT-H)

Display

HDMI output with resolution up to 1920 x 1080 pixels

Onboard Flash

eMMC-8GB-MLC with Android 4.4.4 pre-installed
(P/N: EB-AN01-E8BT-H)

BT & WLAN

BT & WLAN module x 1
(P/N: EB-AN01-E8BT-H)

Peripheral

1. USB 2.0 port x 1
2. USB 3.0 port x 1
3. SD Card slot x 1 (card reader only)
4. RS-232 port x 1
5. Line out x 1
6. Gigabit Ethernet x 1
7. HDMI x 1

Dimension & Weight

95 x 95 x 34.9 mm/ 338g

Operating System

Android 4.4.4 Pre-installed

Ordering Information

PRODUCT NUMBER	DESCRIPTION
EB-AN01-E8BT-H	EBOX EB-AN with 1GB DRAM/eMMC-8GB/COM/USB3/USB2/ GigaLAN/ HDMI/WLAN&BT/Power Adapter
EB-AN01-E8BT-HW	EBOX EB-AN -20~+70 ℃ supported with 1GB DRAM/eMMC-8GB/ COM/USB3/USB2/GigaLAN/HDMI/WLAN&BT/Power Adapter

Peripherals Connecting

Connecting the Power Adaptor

A: DC Power Jack

To use EBOX EB-AN Series immediately, please attach the supplied adapter for the power source.

Connect the DC power jack of the power adaptor to the DC Input of EBOX EB-AN Series.

B: Turning ON EBOX EB-AN Series

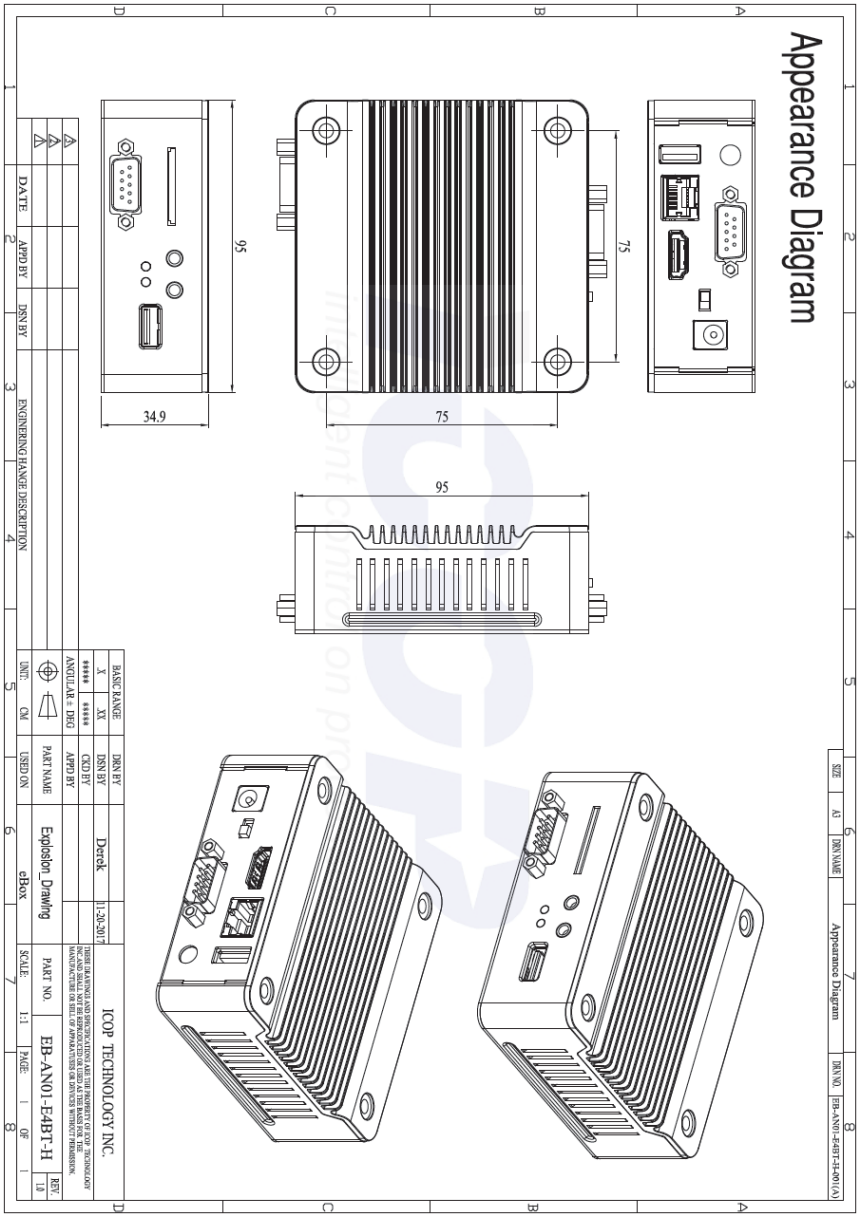
Switch on power the system will start.

Connecting the Monitor

C: HDMI out Connection

Connection for HDMI interface Monitor.

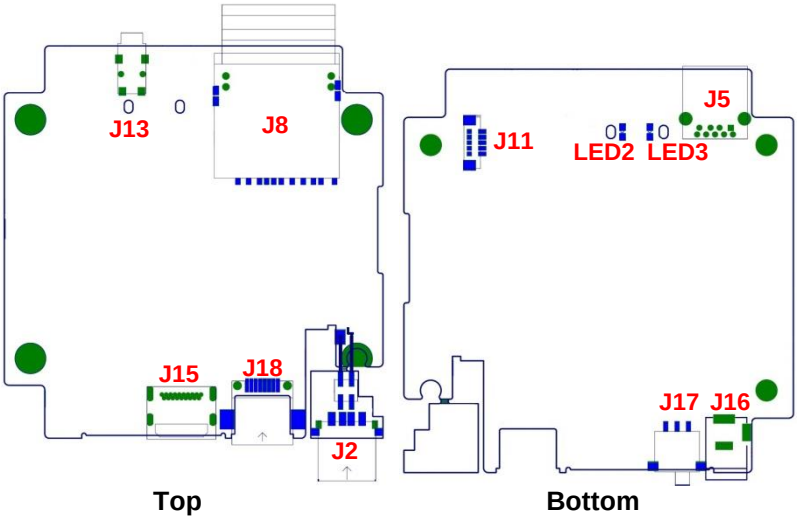
Product Dimension



Chapter 3

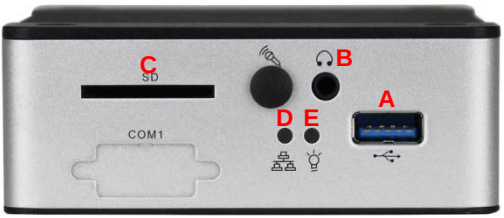
Onboard Connectors Summary

Summary Table for EBOX EB-AN PCB Board			
Nbr	**Description**	**Type of Connections**	**Pin nbrs.**
J2	USB 2.0	USB 2.0 connector	4-pin
J5	USB 3.0	USB 3.0 connector	9-pin
J8	SD Slot	SD Slot	13-pin
J11	COM Port	Wafer for RS-232 Cable	5-pin
J13	Line out	Audio jack	5-pin
J15	HDMI	HDMI connector	19-pin
J16	DC +12~+24V Input	DC JACK	2-pin
J17	Power switch	Power switch	3-pin
J18	Ethernet	RJ-45	8-pin
LED2	Ethernet LED	Etherenet SMD LED	2-pin
LED3	Power LED	Power SMD LED	2-pin



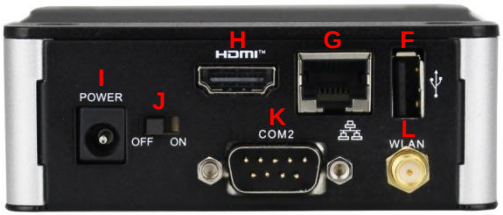
CPU Board Outline

Front Connectors Outline



A: USB 3.0
B: Line out
C: SD Card Slot
D: Ethernet LED
E: Power LED

Rear Connectors Outline



F: USB 2.0
G: GigaLAN
H: HDMI
I: Power Jack
J: Power Switch
K: COM Port (RS-232)
L: WLAN Antenna

Pin Assignments

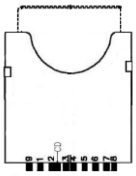
J2: USB 2.0 (90°)

Vertical Type	Pin #	Signal Name
	1	VCC
	2	Data --
	3	Data +
	4	GND

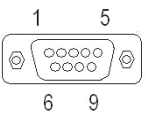
J5: USB 3.0 (180°)

	Pin #	Signal Name	Pin #	Signal Name
	1	VCC	2	D-
	3	D+	4	GND
	5	SSRX-	6	SSRX+
	7	GND	8	SSTX-
	9	SSTX+	-	- -

J8: SD Slot

	Pin #	Signal Name	Pin #	Signal Name
	1	DATA3	2	CMD
	3	GND	4	VCC3
	5	CLK	6	GND
	7	DATA0	8	DATA1
	9	DATA2	10	CD
	11	WP	-	- -

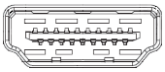
J11: COM D-Sub Connector

	Pin #	Signal Name	Pin #	Signal Name
	1	- -	2	RXD
	3	TXD	4	- -
	5	GND	6	- -
	7	RTS	8	CTS
	9	- -	-	- -

J13: Line out

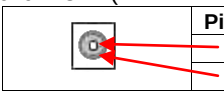
	Pin #	Signal Name	Pin #	Signal Name
	1	GND	2	LOUT
	3	Open touch	4	Open touch
	5	VREFOUT	-	- -

J15: HDMI



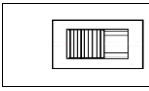
Pin #	Signal Name	Pin #	Signal Name
1	DATA2+	2	DATA2_Shield
3	DATA2-	4	DATA1+
5	DATA1_Shield	6	DATA1-
7	DATA0+	8	DATA0_Shield
9	DATA0-	10	CLK+
11	CLK_Shield	12	CLK-
13	CEC	14	Reserved
15	SCL	16	SDA
17	CEC_GND	18	+5V_power
19	Hot_Plug_Detect	-	- -

J16: DC-IN (+12V~+24V) - 2-pin Jack



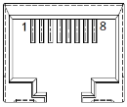
Pin #	Signal Name
1	+12~+24V Input
2	GND

J17: Power Switch



Pin #	Status
ON	ON
OFF	OFF

J18 RJ-45 Connector



Pin #	Signal Name	Pin #	Signal Name
1	BI_DA+	2	BI_DA-
3	BI_DB+	4	BI_DC+
5	BI_DC-	6	BI_DB-
7	BI_DD+	8	BI_DD-

LED2: Ethernet LED

LED Color	State
Green	Internet Active

LED3: Power LED

LED Color	State
Blue	Power On

Chapter 4

Taking Care of your EBOX EB-AN

This section gives you some guidelines on using EBOX EB-AN Series – Safe using, Storing and Handling.

Storing

- Do not place EBOX EB-AN Series in a location that is subject to:
  - Heating sources, such as stove, oven, heater, radiator or air duct
  - Direct contact from sunlight
  - Rain or moisture area
  - Excessive dust accumulation area
  - High humidity place
  - Constant or occasional mechanical movement, vibration or shock
  - Strong magnets or magnetic fields or magnetically unshielded speakers
  - Out of the storage temperature range from -30^{O}C~ +70^{O}C
- Do not place other electronic device or electrical equipment near EBOX EB-AN Series. The electromagnetic field of the EBOX EB-AN Series may cause interference subjecting to malfunction.
- Provide adequate air ventilation (circulation) to prevent internal buildup of heat. Do not place EBOX EB- AN Series near the wall, behind the curtains or draperies, in between two books that block its ventilation slots. Leave a space of at least 8 inches (20cm) behind the sides and back panel of the EBOX EB-AN Series.
- Change of environmental temperature: Problems may occur when there is a sudden change of environmental temperature, or if the EBOX EB-AN Series is brought directly from a cold location to a warm one, moisture may condense inside EBOX EB-AN Series. Turn off the device, and contact your nearest dealer.
- Check the surrounding appliance(s) before using EBOX EB-AN Series. Since the EBOX EB-AN Series uses high-frequency radio signal and may interface with radio or TV reception causing interference or poor signal display. When this happens, relocate the EBOX EB-AN Series by a suitable distance away from the set.
- Do not drop the EBOX EB-AN Series from the working table nor place heavy objects on top of it.

Using Cables for Connection

- To avoid the problem, use only the specified interface cables in your accessory bag. The supplier will not be responsible for the connection arising from the other unspecified peripheral equipment.
- Do not use cut or damaged cables for connection.

Cleaning Your EBOX EB-AN

- Clean the EBOX EB-AN with a soft dry cloth to lightly moistened with a mild detergent solution.
- Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzene, as these may damage the finish of EBOX EB-AN.
- When a solid object falls or a liquid spills onto the EBOX EB-AN, turn off the EBOX EB-AN immediately and unplug the LAN and power cables. Contact a qualified person or your dealer to check the EBOX EB-AN before you use it again.
- Always disconnect the power cord from the power source before cleaning the EBOX EB-AN.

Troubleshooting

This section describes the techniques of resolving some basic problems that you encounter when using EBOX EB-AN Series. For more troubleshooting guidelines, please contact your nearest dealer for technical support.

Troubleshooting Your EBOX EB-AN

EBOX EB-AN does not start –

- Make sure the EBOX EB-AN Series is properly secured and plugged into a power source before it is turned on. Make sure the power indicator shows the power is on. See section 2 for more information about "EBOX EB-AN Series Overview".
- When the EBOX EB-AN Series is plugged into a power strip or the UPS (Uninterruptible Power Supply), make sure the power strip or UPS is turned on and working normally.
- Check if your LCD monitor is properly plugged into a power source and turned on. Make sure the brightness and contrast controls are adjusted correctly. See the manual that came with your display (monitor) for details.
- Check if your power control button does not function, by removing the AC adaptor. Wait for one minute, and then reattach all power connection before pressing the power button.
- Condensation may cause the EBOX EB-AN Series to malfunction for a while. If this happens, do not use the EBOX EB-AN Series for at least one hour.
- When you have checked all the above guidelines and the EBOX EB-AN Series does not work. Remove the power adaptor from the EBOX EB-AN Series, unplug the power cord, and plug it in again. Then turn on the power.

Chapter 5

Terms and Conditions

Warranty

The warranty terms for EBOX EB-AN Series are twelve (12) months from the shipped month. During the warranty period, DMP Electronics Will repair replace the product covered under this limited warranty.

Service and Support

DMP Electronics Inc. provides the technical support for hardware problems with your system throughout the warranty period. The technical support service is limited to configuration and operation of EBOX EB-AN Series sold by DMP Electronics Inc. The technical support service does not offer software tutoring or training.

Return Merchandise Authorization（RMA）policy

If the DMP staff or dealer determines that a part is defective. Purchaser must call our technical support service to obtain an RMA number before attempting to return any part. Please refer to your nearest dealer for

To obtain an RMA number, Purchaser must follow procedures as below：

1. Complete the DMP Electronics Inc. standard RMA Form and fax back to the RMA Department.
2. The RMA Number must be used within 7 DAYS
3. The RMA Number must be shown clearly on your shipping label.
4. DMP Electronics Inc. must receive all Returns before a replacement will be sent.
5. The repair cost depends on the parts, damage reasons, and whether under warranty period … etc. The Seller will charge the Purchaser in a reasonable price.
6. A copy of the invoice for the RMA product(s) will also be shipped to Purchaser.
7. The freight of return to DMP Electronics Inc. is charged to the Purchaser's account and accompanied by an RMA number. Any Returns with freight collect will be refused and returned to you. After Repairing, the cost of freight will be paid by Seller.
8. DMP Electronics Inc. must receive all returned goods within the warranty period.

Shipping Policy

The Purchaser must pre-pay shipping for any defective system or parts returned under the warranty. DMP Electronics Inc. shall not be liable for risk of loss or damage during shipment of your returned system or parts if you fail to insure the shipment.

All products must be shipped back to DMP Electronics Inc. in original or equivalent packaging. DMP Electronics Inc. will ship the repaired or replacement product(s) to the Purchaser by freight prepaid. Purchaser assumes the risk of loss. DMP Electronics Inc. shall not be responsible for failure of the delivery service to make on-time delivery.