MoniVox ®

USER MANUAL
GENERAL CONFIGURATIONS
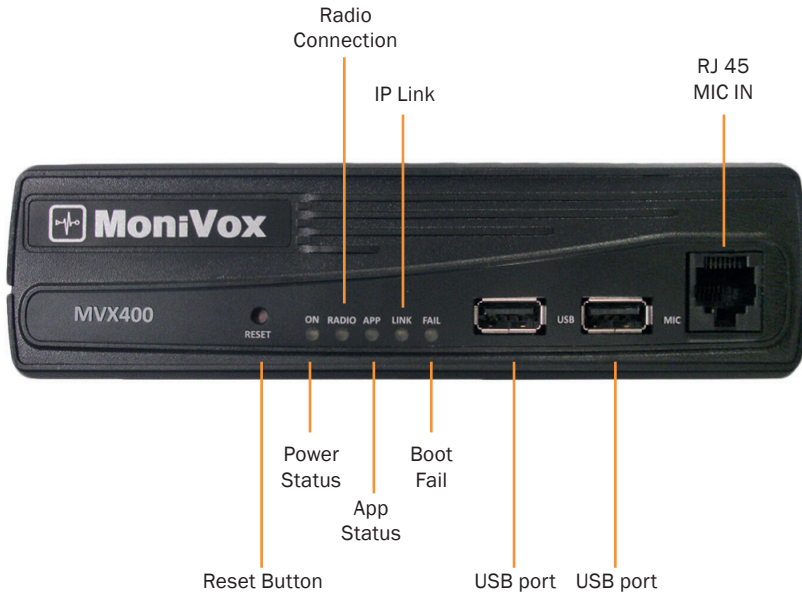**MONIVOX SMART DEVICE - MVX400**

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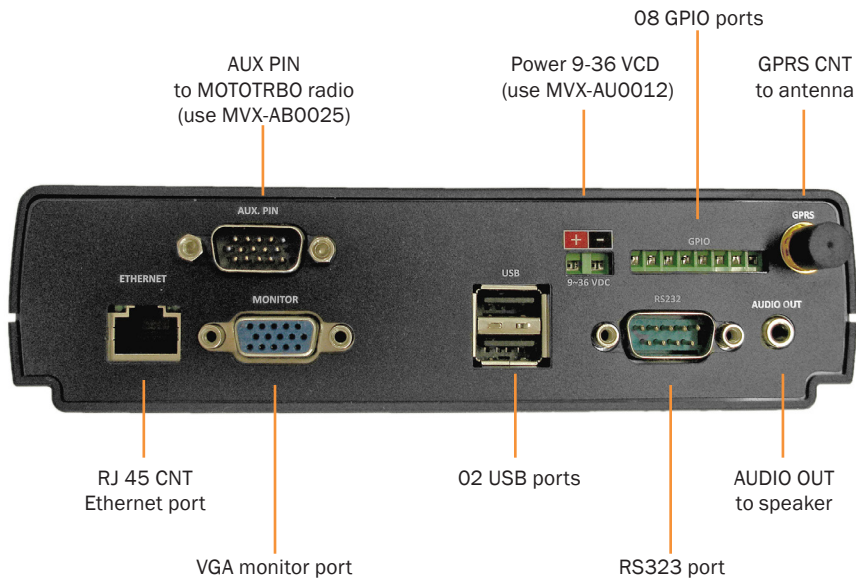# PRODUCT SPECIFICATIONS

EXTERNAL COMMUNICATION	
Digital radio MOTOTRBO™ Motorola (digital slot data port)	01
GPRS quad band module (Telit GL865 QUAD)	01
Ethernet (TCP/IP)	01
PORTS	
RS232 (DB9)	01
USB 2.0 external (host)	04
USB 2.0 (DB15 to communicate with the digital radio)	01
GPIO (programmable IN/OUT)	08
Monitor (VGA 1024x768)	01
External microphone (RJ45)	01
Audio IN (DB15)	01
Audio OUT (P2)	01
I2C (internal, not used)	01
OPERACIONAL SYSTEM AND MICROPROCESSOR	
Operational System	Android 2.3
Microprocessador ARM Cortex A8	1GHz

MEMORY	
Mass memory Micro SD card (SD card not included)	01
Memory SDRAM DDR3 1GB	01
NAND eMMC 4GB	01
GENERAL INFORMATION	
SIM Card	01
RTC battery holder CR1220 (access through bottom lid)	01
RTC	01
Watch dog timer	01
LED indicator (On - Radio - App - Link - Fail)	05
Buzzer	01
External power DC	9~36VDC
Product operating temperature	0~60°C

MoniVox MVX400 front panel

- Radio Connection
- IP Link
- RJ 45 MIC IN
- MoniVox MVX400
- RESET / ON RADIO APP LINK FAIL / USB USB MIC
- Power Status
- App Status
- Boot Fail
- Reset Button
- USB port
- USB port

AUX PIN
to MOTOTRBO radio
(use MVX-AB0025)

Power 9-36 VCD
(use MVX-AU0012)

08 GPIO ports

GPRS CNT
to antenna

AUX. PIN

ETHERNET

MONITOR

USB

9-36 VDC

GPIO

GPRS

RS232

AUDIO OUT

RJ 45 CNT
Ethernet port

VGA monitor port

02 USB ports

RS323 port

AUDIO OUT
to speaker

CR1220
Battery Holder

SIM CARD

Micro
SD CARD

MoniVox

Product description: **MoniVox Smart Device**
Part number: **MVX400**
Industrializado por encomenda por:
Rua Pedro Stancatto, 250 Campinas - São Paulo, Brasil
CNPJ: 65.877.300/0001-07

MODELO: MVX400
4375-13-2766

FCC ID 2ABGRMVX4C0

ANATEL

FC C€ CE

Serial number

This device complies with part 15, 22 & 24 of the FCC rules.
Operation is subject to 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.

Indústria Brasileira
Made in Brazil

ACCESSORIES INCLUDED

PRODUCT	PART NUMBER	QUANTITY
Cabo conversor DC-DC	MVX-AU0012	01
Transformador automático AC/DC	MVX-AU0013	01
Plug adaptador, BR	MVX-AU0014	01
Antena magnetica GPRS 02 mts.	MVX-AU0019	01
Parafuso borboleta	MVX-AB0022	03
Porca auto travante inox M5	MVX-AB0023	02
Cabo PP conexão MVX400/Radio	MVX-AB0025	01
Suporte MVX400	MVX-AB0020	01
Manual do usuário	MVX-AB0026	01
Tampa de borracha power	MVX-AB0024	01
Base de silicone moldado 3M clear	MVX-AB0034	04
Parafuso philips plastic 3 x 10 panela - base	MVX-AB0035	05
Cabo manga fonte de alimentação DC-DC	MVX-AB0036	01

MVX-AB0025

MVX-AU0036

MVX-AU0019

MVX-AU0013

NVX-AU0012

MVX-AU0012

MVX-AU0014

MVX-AU0014

GENERAL DEFINITIONS

Used Terms

- "Default" means "factory standard".
- "App" means MoniVox Application in this manual.
- "Android™" is the operational system used in the MVX400.

Shortcuts

- **Left mouse button (one click)** - move command (Enter).
- **Right mouse button (one click)** - command to go back.
- *Note: Do not use the double-click.*
- Clicking the left mouse button inside the field, if there is no keyboard, a virtual keyboard is opened in the bottom of the screen.
- For vertical scrolling of the screen, click and hold the right mouse button and drag vertically.

Dynamic use of the service buttons (top of the screen)

- Click on the button at the top of the screen **"Add"** to select the option to **add a record**.
- After entering a new record, click the button at the top of the screen **"Save"**.
- **To delete a record**, select it and click the following icon at the top of the screen "**Delete**" (if you want to find an existing record, select the filter field, the search is dynamic).
- The screens do not have the option to save logs, **registry changes are saved when you exit the screen** (by clicking the right mouse button).

MVX400 Front LEDs

Observe the operation of the LEDs and compare with the following table. Adjacent is the legend with the status of the LEDs.

Legend
🟠 On   ⬛ Off   ◉ Flashing

ACTIONS	LEDS				
	ON	**RADIO**	**APP**	**LINK**	**FAIL**
After activation of the MVX400 and during the BOOT of Android	🟠	🟠	🟠	🟠	⬛
After successfully BOOT of Android	🟠	⬛	⬛	⬛	⬛
After unsuccessfully BOOT of Android without App service	🟠	🟠	🟠	🟠	⬛
After unsuccessfully BOOT of Android with App service	🟠				🟠
Active connection of MVX400 with MOTOTRBO™ base radio		🟠			
Inactive connection of MVX400 with MOTOTRBO™ base radio		⬛			
App not working properly			🟠		
App is working correctly			⬛		
App RoIP with keep alive for at least 1 PEER				🟠	
App RoIP with keep alive failure to all PEERS				◉	
App RoIP is not available for any PEER				⬛	

USB INSTALL
- **LED "ON" flashing every 1 second** (1 Hz) - during installation / verification
- **LED "ON" flashes 3 times per second** (3 Hz) (for 5 seconds) - flawless installation
- **LED "FAIL" flashes 3 times per second** (3 Hz) (for 5 seconds) - completed the process with a mistake/error.

BASIC CONFIGURATION OF YOUR MVX400 AT POWER UP FOR THE FIRST TIME

1. SELECT A LANGUAGE

Default: Portuguese (Brazil)

Select the language you want (left mouse button) and exit the screen (click the right mouse button)
Click the grid button on the right side of the screen to view available applications.

2. TO LOG IN

■ Enter username and Password
User (default): MASTER
Password (default): #mvx400

■ After their first session, the MVX400 will ask for a new password, click the "yes" button and change the MASTER password.
Current Password: #mvx400
New password: Minimum of 6 characters with at least one letter and one number.
Confirm Password: Repeat new password.

3. CONFIGURATION SCREENS OF YOUR MVX400

Icon - Configuration MVX400

Network
- Ethernet
- Wi-Fi
- GPRS test
- Bluetooth

System
- Dynamic DNS
- Local FTP

MOTOTRBO™ Administration
- MOTOTRBO™
- State

Users Management MVX400
- Managing access profiles
- Manage Users

MVX400 Administration
- Permissions
- Backup
- SIM card
- E-mail
- Destination of mass data storage
- Idiom
- Date and time

MoniVox Application Manager
- Installation of MoniVox application
- Manage MoniVox applications

Master configurations
- Master password

MVX400 Informations
- MVX400 serial numver
- Version

4. DETAILED SETTING SCREENS OF YOUR MVX400

MVX400 Configurations > Network > Ethernet
Ethernet Configuration
- Apply changes (this icon applies the changes to this screen)
- Enables Ethernet - setting default "enabled".

Keep the setting enabled to access Ethernet and click "apply changes" to force the connection, if it is not done automatically.

Use DHCP
- Use DHCP - setting default "enabled"

Keep this setting "enabled" to obtain the IP automatically.
If the setting is set to "disabled", the field "fixed IP configurations" must be filled.

Fixed IP settings
- **IP:** Clicking on the IP, type the fixed IP address and click "OK".
- **Netmask:** Clicking Netmask, enter the netmask address of your netmask and click "OK" (standard 255.255.255.0).
- **Gateway:** Clicking Gateway, type the address and click "OK".
- **DNS 1:** When you click the DSN 1, enter the address and click "OK". If no DNS 1 address, enter the fixed IP address.
- **DNS 2:** Clicking DNS 2, enter the address and click "OK".

This option of DNS2 is an alternative if in case the MVX400 does not get connect to the DNS 1, optional.

MVX400 Configurations > Network > Wi-Fi

Wi-Fi Configuration

- **Wi-Fi (default):** setting "disabled"
- Click the setting for available Wi-Fi networks and wait until the networks shows in field below "Wi-Fi Networks" are presented.
- To connect to the network you want, hold the left mouse button for 2 seconds to bring up the options, "connect to the network", "forget the network" and "modify network".
- The option "modify network" is used to change the security password of a live network connection.

MVX400 Configurations > Network > GPRS Test

- Click the setting to test the GPRS connectivity.
- This feature requires the SIM Card is installed in the MVX400 and valid data packets and enabled by your operator.
- The MVX400 has been tested to work with the following operators, Claro, VIVO, TIM and Oi.

MVX400 Configurations > Network > Bluetooth

Bluetooth Configuration

- **Bluetooth (default):** setting "disabled".
- Click the setting to activate the Bluetooth connection.
- The MVX400 device name is **"imx53_loco"**.

MVX400 Configurations > System > Dynamic DNS

Dynamic DNS

- **Name (default):** the serial number is MVX400.dyndns - ip.com
This name can be changed with and ALIAS created in Dyn DNS.
- **Dyn DNS User**: enter the user of the Dyn DNS and click "OK".
- **Dyn DNS Password:** enter your Dyn DNS password and click "OK"..

■ **Dyn DNS Update:** click once with the left mouse button to save the changes and request the Dyn DNS connection.

Local FTP
■ **User (default):** admin
Enter the user name and click "OK"..
■ **Password (default):** admin
Enter the password and click "OK".
■ **Port (default):** 2121
Enter the port and click "OK".
■ **Root directory (default):** /sdcard/
Enter the address of the root directory of the MVX400 you want to get the data and click "OK".

MOTOTRBO™ Configurations
■ **MOTOTRBO™ IP (default):** 192.168.10.1 (to connect to the MVX400)
Confirm the IP address of the MOTOTRBO™ base radio and click "OK" (the IP address should be the same that is found in the Motorola CPS).
■ **Port (default):** 8002
Confirm the port of the MOTOTRBO™ base radio and click "OK".

Connection status with the MOTOTRBO™
Connection
■ Connection with MOTOTRBO™ radio: This field indicates if there is a connection between the MVX400 and a MOTOTRBO™ base radio.

Input
- **PTT Mic In:** This field allows you to verify if the PTT MIC IN of the MVX400 is active or not. If enabled the settings in the PTT MIC IN is "enabled", if inactive, "disabled".
- **CSQ In:** This field indicates if there is a carrier from the MOTOTRBO™ base radio connected to the MVX400.

Output
- **PTT out**: This field allows you to check if the PTT OUT of the MVX400 is active or not. If enabled the PTT OUT setting is "enabled", if inactive, "disabled".
- **Áudio Jack**: default disabled (This field must be enabled, setting "enabled" to activate the audio output pin also for the P2-AUDIO OUT of the MVX400).

MVX400 Configurations > MVX400 User Administration > Access profile administration
On this screen you can create new access profiles. The profile "Admin" is the default of the MVX400 and cannot be removed.

MVX400 Configurations > MVX400 User Administration > Users administration
In this screen you can create users and assign them to the desired "Access profiles".

MVX400 Configurations > MVX400 User Administration > Permissions
Permissions
- **Users Administration:** In this screen the "master" user can create new "profiles" that have the autonomy to create new "access profiles".
- **Server connection administration:** In this screen the "master" user can create new "profiles" that have autonomy to authorize connection of the MVX400 to the MoniVox server.

The MVX400 connection with the MoniVox server is intended to upload and download on-line applications and MoniVox licenses.

MVX400 Configurations > MVX400 User Administration > Backup

Backup MoniVox

■ Allows you to run the automatic backup: Default "disabled".

Clicking the setting, the fields below are enabled.

■ **Destination:** Enter the URL of the FTP server and click "OK".

■ **Username:** Enter the FTP username and click "OK".

■ **Password:** Enter the password for the FTP and click "OK".

■ **Frequency:** Default "daily".

Select the frequency when the backup should be performed automatically.

■ **Time of execution:** select the time when the backup should be executed automatically.

Default : 23:59/11:59 PM

■ **Backup Status and History**

This screen has two functions, namely:

- Button to "Start the backup now", when you click this button a new backup is started;

- History of the backup made;

■ **Restore**

This screen has the function of showing the backups made; by selecting the desired file and click the button "start restoring data now" the database that is in that file will be restored.

MVX400 Configurations > MVX400 User Administration > SIM card

■ This screen has the functionality to record the phone number of the SIM card, your configuration is not mandatory for the GPRS function to be activated in the MVX400.

MVX400 Configurations > MVX400 User Administration > E-mail

Configure E-mail

■ **SMTP Server:** Enter the address and click "OK".

■ **Port:** enter the port and click "OK".

■ **Security type (all fields default disabled):** when select SSL or TLS, the option is automatically recorded.

■ **Requires Login (default "disabled"):** Clicking on "Test Connection" the MVX400 will conduct a routine to test sending the email, and showing the results.

MVX400 Configurations > MVX400 User Administration > Mass data storage destination

Storage Directory

■ Select the directory to store the mass data saved by the MoniVox applications, they can be stored on the SD card of the MVX400 or via USB/pen drive.

■ To select the SD card destination, click on "search" and "SD card" link at the top of the screen, then click on the bar "select".

■ To select the USB/pen drive destination, click the "search" icon and "MNT" and "udisk" and select the USB where your pen drive is connected.

Note: The USB ports are dynamic in the MVX400, click on the 4 options to find the port that the pen drive unit is connected.

MVX400 Configurations > MVX400 User Administration > Language

Select the language for this MVX400

■ Select the language for this MVX400 and click the right mouse button to exit and save the desired option.

MVX400 Configurations > MVX400 User Administration > Date and time

Date and Time Settings

■ Automatic

MVX400 Configurations > MoniVox Application Manager > Installing applications

This screen allows two activities, namely:

■ Identifies the MoniVox applications, versions and quantities of licenses installed in this MVX400.

■ Force update of new applications, versions and MoniVox licenses on- line through the MoniVox server via the button "check through the net", or off-line via the button "check pen drive".

MVX400 Configurations > MoniVox Application Manager > MoniVox Application Manager

Connecting to a MoniVox server

■ **Connecting to a MoniVox server:** For the application updates, versions and licenses to be conducted on-line through the network, it is necessary that this option setting is "enabled".

■ **Connection Frequency:** Default "Daily"

Select how often you want to connect the MVX400 to the MoniVox server.

■ **Time to connect to server:** Default "11:00 PM"

Select the time you want to connect the MVX400 to the MoniVox server.

MVX400 Configurations > Master configuration > Master password

This screen allows you to change the "master" user password.

Changing the default MASTER password "#mvx400" is highly recommended after your first login to the MVX400.

MVX400 Configurations > MVX400 Information > Serial number MVX4000

Displays the serial number of the MVX400.

■ **The sixth letter** from left of the serial number identifies the year of manufacture of the MVX400, as follows: 2010-A, 2011-B, 2012-C , 2013-D, 2014-E , 2015-F, 2016-L, 2017-H, 2018-I, 2019-G , 2020-K …

■ **The seventh letter** from left of the serial number identifies the manufacturing month of the MVX400, as follows: JANUARY-A, FEBRUARY-B , MARCH-C , APRIL-D , MAY-E, JUNE-F , JULY-G, AUGUST-H, SEPTEMBER-I, OCTOBER-J, NOVEMBER-K, DECEMBER-L.

MVX400 Configurations > MVX400 Information > Version
Displays the build version of the MVX400.

FCC COMPLIANT

Product: MVX400
FCC ID: 2ABGRMVX400
This device complies with part 15, 22 & 24 of the FCC rules. Operation is subject to 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 opertion.
Made in China
Brand: MoniVox

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15, 22 & 24 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there

is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

. Reorient or relocate the receiving antenna.

. Increase the separation between the equipment and receiver.

. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

. Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance

could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter

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