



MantaroBot™ Classic TelePresence Robot Datasheet

MantaroBot Overview

The MantaroBot™ TelePresence Robot is a mobile offsite-conferencing platform that is plugged into Skype™ or can be used with many other audio/video conferencing applications. It allows users to remotely interact with and observe people and their environment. The telepresence system provides a level of interactivity which is not present with traditional “call-in” teleconferencing techniques. The user can move around the room, observe other meeting participants through a web camera, and share desktop, allowing more effective communication. The user will be able to see live presentations and demonstrations as well as the body-language of others. Provided they have a network connection, any user can access the MantaroBot TelePresence Robot.



MantaroBot™

The MantaroBot requires no supervision or operation by onsite members, excluding initial power-on. Onsite participants are able to communicate with the offsite user through an onboard microphone, speaker, display, and camera. The Robot is based around a netbook computer that manages the peripherals. The MantaroBot is Wi-Fi enabled and communicates with a wireless router. Skype or your choice of audio/video conferencing application runs on the netbook providing high quality audio and video. A control interface runs on the user’s computer allowing full control of the MantaroBot and completing the video call-in platform. The MantaroBot also features a pan tilt camera that provides wide visual range and acuity.



plugged into Skype™

Applications

- Quickly “visit” work on your schedule to provide “in person” assistance on a business or technical issue
- Attend meetings while working from home
- View and discuss “whiteboard” interactions and use Red Laser to point
- Investigate cause of building access violations without driving to work
- Tour laboratories, factory floors or field offices
- Provide customer TelePresence tour of facilities
- Allow medical patients to “virtually” be at home and interact with family

Benefits

- Reduce travel cost to visit remote facilities
- Eliminate travel time to attend meetings
- Increase frequency of “visits” to remote or branch offices
- Provide safe TelePresence tours of factory floors
- Customer presales presentations & facility tours

Features

- Application that is plugged into Skype or other audio/video (AV) conferencing applications for easy and intuitive control for driving MantaroBot
- Application can control Classic using 3 choices of robot control paths: Skype, direct socket connection, or MantaroBot Communications Service (cloud service). Can work on 802.1X networks requiring security certificate.
- HD Camera with Pan and Tilt control; Red Laser pointer mounted on the same Pan and Tilt control
- Obstacle detecting infrared sensors that automatically reduce speed when obstacle is detected
- Tip detection using three axis accelerometer with automatic stop to prevent tip-over
- High quality speakers and USB microphone
- Auto-answer (if using Skype or if the AV application used provides support) w/ password protection access control
- Dedicated Netbook computer provides local control interface and display
- Automatic communication link monitoring stops MantaroBot if communication link fails
- Docking Station Accessory allows unattended charging



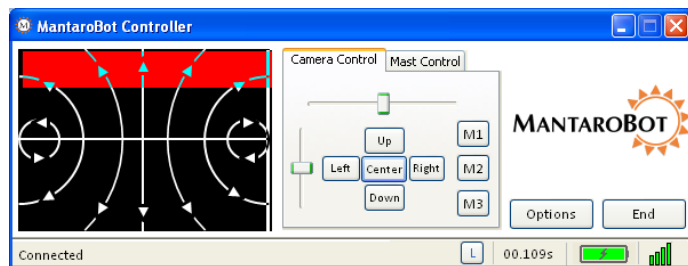
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MantaroBot Control User Interface

The MantaroBot Classic is controlled by the remote user via a control application that communicates with the Classic over a Skype, direct socket, or MantaroBot Communications Service connection to the Classic. The control interface is designed as a small control panel that provides separate control interfaces for the movement of the MantaroBot and control of the camera and motorized mast.



The MantaroBot control interface also provides important status information of the MantaroBot including the condition of the communications link, Wifi signal strength, offline/online status as well as the battery charge state.

The Direction Control Pad allows the user to smoothly navigate the MantaroBot in the remote location by moving the mouse over various areas of the Control Pad.

The Direction Control Pad also features an obstacle avoidance alert. When obstacles are detected near the MantaroBot a light area appears on the Control Pad in the vicinity of the object. This allows objects that may not be in camera view to be avoided.

The camera position can also be controlled from the keyboard or through the use of three memory buttons that can be programmed to position the camera in a single click.

Bottom status bar also provides status messages to confirm actions or alert of conditions such as tip alerts.

Software Specifications

Remote User Requirements

- Windows® XP, 7 or 8, Mac® OS 10.6 or greater
- Skype™ Version 5.1 or newer
- MantaroBot™ Control Application

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Hardware Specifications

Battery

- 12V - 15Ah rechargeable Lead Acid Battery
- Battery life 4 hours plus (typical use)
- Power Saving Mode for even longer battery life
- AC Adapter for charging
- Optional extended life battery available (see below)
- Optional docking station for charging

Camera & Display

- Pan and Tilt camera supports up to 720p HD Widescreen Video (depends on link quality)
- Camera mounted on an adjustable 5 foot mast with 7 inch steps providing good visibility, eye contact and flexibility
- 16" LED backlit Monitor (1366 x 768)

Speakers & Microphone

- Two 1.2W Speakers
- Digital microphone

Infrared Obstacle Detection

- Four (4) Infrared optical transceivers for obstacle detection

Netbook Computer

- Includes Netbook computer loaded with MantaroBot host control application

MCU and Motor Controller

- Micro-controller processor drives motors, pan/tilt camera and infrared sensors
- Solid-state Accelerometer for tip detection
- Expansion capability through programmable GPIO and ADC ports

Drive Motors & Wheel Encoders

- Two independently controlled motors provide up to 1.5 miles per hour forward speed
- Wheel encoders provide better driving control

Optional Accessories

- Docking Station (for charging)
- Motorized Mast – Allows remote user to quickly adjust height of camera and display to best suite the situation
- Red Laser Pointer – mounted on Pan/Tilt control with camera
- 12V – 10Ah LiFePO4 long life battery

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