TouchCommunicator

Operations and Safety Manual

Revision 3.0

This document describes the operation and safe use of the Life Design TouchCommunicator, hereafter "TouchCom". In the words of Peter Parker, "With great power comes great responsibility." The TouchCom will allow you to more easily interact with your environment and communicate with those around you but only if you follow these guidelines.

Description and Purpose

Purpose

This product allows easy interface between simple media devices, and also to integrate simple tasks such as door opening and television operation for individuals with a lack of mobility and freedom to control their surrounding environment. These operations are consolidated in a small, ergonomic device which allows for easy integration into one's immediate environment.

Description

The TouchCom is a touchscreen-based communication and environmental control system. It will allow you to perform the following functions:

- Switch audio from a selection of inputs (cell phone, Mp3 player, personal microphone, auxiliary) to a selection of outputs (headphones, speakers)
- Open your automatic door
- Operate your television

Special Features

The TouchCom includes the following special features:

- Backlit LCD Touchscreen
- Durable, weather-resistant casing
- Flexible mounting arm
- Multiple input/output jacks (located on casing)

Considerations and Usage

Basic Operation

1. Powering Your TouchCom:
   - Plug in the power cable. The power cable can be recognized by its 3-pin plug.
   - Plug the opposite end of the cable into your power wheelchair's charging port. This can generally be found near the bottom of your power wheelchair and has three holes like the power port on the TouchCom.

2. Turning your TouchCom On:
   - Flip the switch located on the side of the TouchCom to the on position.
3. Plugging in Your Peripherals:
   Peripherals are any device that can be plugged into and operated by your TouchCom.
   - Available Peripherals:
     - MP3 Player
     - Cell Phone
     - Microphone
     - Headphones
     - Speakers
     - Auxiliary Device

4. Plugging in an MP3 Player:
   - Using the provided 3.5mm-3.5mm cable, take one plug and plug it into the headphone port on your MP3 player (if finding the port is difficult, consult your MP3 player manual)
   - Using the 3.5mm plug on the opposite end of the cable, plug it into the port labeled **MP3 Player** found on the bottom panel of the TouchCom.
   - See Appendix A (Bottom Face)

5. Plugging in your Cell Phone:
   - Using the provided 3.5mm-2.5mm cable, take the smaller plug (2.5mm plug) and plug it into the headphone port on your cell phone (if finding the port is difficult, consult your cell phone manual).
   - Plug the larger plug (3.5mm plug) into the port labeled **Cell Phone** found on the bottom panel of the TouchCom.
   - See Appendix A (Bottom Face)

6. Plugging in your Microphone:
   - Using the cable off of your Microphone Headset with a picture of a microphone, take that plug and plug it into the port labeled **Microphone** found on the bottom panel of the TouchCom.
   - See Appendix A (Bottom Face)

7. Plugging in your Headphones:
   - Using the other cable off of your Microphone Headset, take that plug and plug it into the the port labeled **Headphones** found on the bottom panel of the TouchCom.
   - See Appendix A (Bottom Face)

8. Plugging in your Speakers:
   - Using the provided 3.5mm-3.5mm cable, take one plug and plug it into the headphone port on your speakers (if finding the port is difficult, consult your speaker manual).
   - Using the 3.5mm plug on the opposite end of the cable, plug it into the port labeled **Speakers** found on the bottom panel of the TouchCom.
   - See Appendix A (Bottom Face)

**Button Descriptions and Menu Screens**

1. Home Screen:
   The Home Screen is the first screen that you will see once you have turned on your TouchCom.
The buttons seen on this screen will be: **Input**, **Output**, and **Utilities**.

2. **Input Button:**
   This function will allow you to select which peripheral device (AUX, cell phone, MP3 player, microphone) you want to hear or use.
   - It is necessary to select an input to properly hear or use the selected peripheral device, this is addressed in the next section.
   - Press the **Input** button. This will bring you to a new screen where you select which peripheral device you want.
   - Select which peripheral device you want by pushing the designated button.
   - After selecting your device, you will be returned to the Home Screen and see the name of the device you selected below the **Input** button.
   - You can change the input peripheral device at any point by repeating the steps above.

3. **Output Button:**
   This function will allow you to select which output peripheral device (speakers or headphones) you want to use to amplify or hear your input device.
   - Press the **Output** button. This will bring you to a new screen where you select which output you want to use.
   - Select either **Speakers** or **Headphones** by pushing the designated button.
   - After selecting your device, you will return to the Home Screen and see the name of the device you selected below the **Output** button.
   - You can change the output peripheral device at any point by repeating steps above.

4. **Utilities:**
   By pressing the **Utilities** button, you will be lead to the Utilities.

5. **Utilities Menu Screen:**

   The buttons seen on this screen will be: **TV Remote**, **Open Door**, **Settings**, and **Home**.

6. **Home:**
   You can return to the Home Screen by pushing the **Home** button.

7. **Opening your Automatic Door with the TouchCom:**
   - In the Utilities Menu, select the **Open Door** button.
   - This result in the opening of your automatic door.
8. Settings Button:
   This button will lead you to the Settings Menu.

9. Settings Menu Screen:

   The buttons seen on this screen will be: **Home** and **Calibrate**

10. Calibrating your TouchCom:
    If your touchscreen starts responding oddly, it may need to be re-calibrated. This will fix any issues you may have selecting the proper button.
    - In the Settings Menu, press the **Calibrate** button.
    - The calibration process starts automatically.
    - Press the screen at the spot of the target until the calibration tests are over.
    - Your TouchCom needs to be restarted after calibrating, so turn off your TouchCom for a minute then turn it back on.
    - Your TouchCom should now be properly calibrated.

11. TV Remote Button:
    This button will lead you to the TV Remote Control.

12. TV Remote Control
    The buttons seen on this screen will be: **Guide**, **Up Arrow**, **Down Arrow**, **Channel**, **Volume**, **Power**, **Home**.

13. Turning on/off your TV:
    - On the TV Remote Control Menu, press the **Power** button.

14. Adjusting the volume on your TV:
    - On the TV Remote Control Menu, press the **Volume** button.
    - The button should now appear to be pressed down on the screen.
    - Using the **Directional Pad**, press the Up and Down arrows to increase or decrease volume respectively.

15. Changing Channels on your TV:
    - On the TV Remote Control Menu, press the **Channel** button.
    - The button should now appear to be pressed down on the screen.
    - Using the Up and Down arrows, change the channel accordingly.

16. Using the Guide:
    - On the TV Remote Control Menu, press the **Guide** button.
    - You should now see the **Directional Pad** (up, down, left, and right), **Select**, and **Exit** buttons on your TouchCom.
    - On your TV, the guide function of COX cable should have come up.
    - Use the **Directional Pad** to navigate the TV guide.
    - Once you have chosen your desired channel, press the **Select** button to view that program.
    - Pressing the **Exit** button will exit the Guide on your COX cable and will also return to the TV Remote Control.

**Troubleshooting**
Introduction

This section describes methods to solve problems you may experience while using your TouchCom. You may want to begin by reading the instructions in the Basic Operation section above. As a general rule, turning the device off and back on again is a good place to start.

Problem

1. The TouchCom does not turn on:
   - Check that the TouchCom is receiving power via the black power cable and that the power switch is in the on position. The Power Cable must be plugged into both the power receptacle on the side of the device and to the wheel chair charging receptacle.
   - Touch the TouchCom screen. The TouchCom turns off the screen to conserve power after a short period of inactivity.

2. The TouchCom is on (Power button lit) but the screen is blank:
   - Your TouchCom is designed to turn the screen off when not being used to conserve power. To wake it up, touch the screen.
   - Check that the TouchCom is receiving power via the black power cable and that the power switch is in the on position. The Power Cable must be plugged into both the power receptacle on the side of the device and to the wheel chair charging receptacle.
   - Increase the screen brightness setting. Navigate to Utilities>Settings>Brightness. Hit the ↑ up button.
   - Reset the TouchCom using the toggle switch to turn it off and then on again.

3. The screen is frozen or not responding
   - Reset the TouchCom using the toggle switch to turn it off and then on again or unplugging the power monetarily
   - Recalibrate the touch screen by selecting the recalibrate function located under Utilities>Settings

4. No Sound can be heard from Headphones or Speakers:
   - Make sure audio source (cell phone, Mp3 player, microphone or auxiliary input) is turned on and player sounds. Try plugging device into another set of speakers to confirm operation.
   - Make sure plugs connecting audio source and TouchCom are connected to the appropriate receptacle and are fully and securely connected.
   - Make sure Speakers are turned on and securely connected to appropriate TouchCom receptacle.
   - Make sure audio level is adjusted high enough on device and on TouchCom
   - Assure TouchCom is turned on.

5. TouchCom is resetting or freezing frequently:
   - Reset device.
   - Make sure wheel chair is charged.
   - Make sure power is connected correctly
   - Device may need repair. Contact Lee W. White at lwhite4@gmail.com.

6. Television does not respond to your TouchCom:
   - Make sure back of device is facing TV. Infrader LED has an emitting angle of ~30 Degrees so it must be aligned with your television or cable box.
   - Reset TouchCom
   - If you change your television or cable box you may need to have the TouchCom reprogrammed.
7. Automatic door does not respond to your TouchCom:
   - Make sure you are in close proximity of automatic door.
   - Assure door is working correctly using another door fob.
   - Reset device.
   - If you change or reconfigure the automatic door opener you may need to have the TouchCom reprogrammed.

Care and Maintenance

Proper care and maintenance of your TouchCom device is extremely important. With some simple, routine cleaning and care, the lifetime of your TouchCom device can be maximized. Please follow these general rules and guidelines for proper care and maintenance only when the device is properly turned off (see Basic Operation).

- Using a dry absorbent material, such as a wash cloth, frequently clean out dust, dirt, and other foreign material buildup from the screen and case of the device.
- Make sure that connector receptacles and plugs are cleaned thoroughly to prevent damage to the device from dirt and dust buildup.
- Prevent frequent and unnecessary application of large force to the device case. See precautions for additional considerations.

Safety Precautions

Please carefully read and observe the following operational warnings before setup and use of your TouchCom device. Failing to do so, may cause injury to the user and/or device.

⚠️ WARNING - Electrical Shock
Please use caution to prevent electrical shock from use of this device by following these guidelines:
- Do not use TouchCom, or any of its attached devices, in an environment where it can come in direct contact with water. (outside in the rain, bath tub, etc.)
- Do not use TouchCom, or any of its attached devices, in an environment that can cause buildup of condensation.
- Do not use TouchCom if the power adapter or other connection cords have become damaged in anyway.
- Always verify that the device is turned off before applying power to it.
- If TouchCom, or any of its attached devices, becomes damaged in anyway, discontinue its use immediately.

⚠️ WARNING - Radio Frequency Interference
TouchCom can emit harmful radio waves that could interfere with medical devices.
- Do not use TouchCom within 2 feet of a medical device, for example: cardiac pacemaker.
- If you are in question whether your medical device is affected by radio frequency interference please consult a qualified physician before operating TouchCom.

⚠️ CAUTION - Physical Harm
TouchCom can be moved and adjusted frequently to ensure maximum user comfort. Please use follow these guidelines to ensure that physical harm to the user does not occur.
- Do not operate TouchCom if it is causing abrasion, rubbing, and or any other physical harm to you.
- If you experience any pain or harm while operating the device, discontinue use and consult a physician immediately.
CAUTION - Device Damage
TouchCom is sensitive to external forces and use outside of its intended operation.
- External forces that are applied to the casing of the device can cause damage including cracking which can result in the loss of protection against electrical shock.
Appendix A

- The following schematic drawings from Solidworks design software show the housing of your TouchCom product.

Device Dimensions:
- Overall:
  - 6 in x 5.2 in x 2 in (L x W x H)
- Active screen area:
  - 4.6 in x 3.5 in
- Wall thickness:
  - 3/16 in