Zonemaster

AirTouch 2
Zone Control System
User Manual

www.polyaire.com.au

Liability

Please read the instructions before installing this Zonemaster Zoning Control System.

Polyaire Pty Ltd does not accept any responsibility for loss or damage that may occur as a result of the incorrect installation of this Zonemaster Control System.

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1) **Features**

- User friendly large touch screen interface
- Wireless remote control using smart WiFi enabled devices (iPhone, Androids and tablets)
- Control from anywhere via internet*
- Intuitive user interface
- Control AC unit[1] in different levels (optional, works with certain brands and models only)
- Control up to two ACs
- Control airflow to individual zones[2] and groups[3]
- Color LCD for clearer display
- Personalized system settings and labelling
- Wall mounted with up to two touch screens available in a system
- 5-1-1 Programmable On/Off time programs and AC Timer
- One selectable turbo[4] group to cool/heat a particular area quicker for each ducted system
- Half Year, One Year and Two Year service reminders to call technician for cleaning and servicing AC system.
- All zones automatically resume their original on/off state once power is restored after power outage.

* Internet access will depend on the home router and may result in some data usage (about 25MB per month)

1. *AC unit is the ducted air conditioner which is connected to AirTouch 2 via main module or extension module*
2. *A zone is the area where air supply is controlled by one motorized damper*
3. *A group is a few zones grouped together which have the group name and are controlled (turning on and off, or adjusting opening percentage) at the same time. A group will have at least one zone and no more than four zones.*
4. *Turbo function will give the selected group a full-opening while all other groups' (dampers) opening positions are reduced by 50% of their open percentage value. This will bring a large volume of extra air into the designated area and cool or heat the area quicker.*

2) Wall Controller Layout (Touch Screen)

The home screen of the AirTouch 2 touchpad normally displays groups' status, dampers' open percentage with adjusting buttons, date, time, room temperature, WiFi (if available) logo, AC status, AC control (details depending on the installation) touch tone status and AirTouch 2 logo as shown below.

Home Screen

NOTE:

- *The touch screen will go to sleep mode after 90 seconds of inactivity. In sleep mode, the screen is blank. Touching any area of the screen will activate the system.*
- *To clean the touch screen, use a dry, soft cloth and very gently wipe the screen. If necessary, dampen the cloth with distilled water or with an equal ratio of distilled water to white vinegar.*

3) Manual Control

3.1 AC Unit On/Off

If an AC unit is connected to AirTouch 2 without a gateway, it can be turned on/off on the home screen of AirTouch 2. The AC name is given in the AC setup section. The power button shows the AC status. Touching the button will switch the AC unit on or off.

If AC is not set up, there will be no AC name or power button on the home screen.

If two ACs are installed, the ">" on the right side of the AC name will bring up the next AC.

3.2 AC Unit Full Control

When the relevant gateway is connected between the AC indoor PCB and AirTouch 2, AC on/off, operation mode, fan speed and set point can be controlled from the AirTouch 2 touch screen.

Supported brands are Daikin, Panasonic, Fujitsu, Mitsubishi Electric, Mitsubishi Heavy Industries, Toshiba and LG.

AC On/Off Control is the same as the On/Off only AC control.

AC Mode Control: Cool, Heat, Dry, Fan and Auto mode can be controlled from AirTouch 2 by touching the mode box and select the mode required.

Fan speed: It can have up to five choices: Quite, Low, Medium, High and Auto. The number of fan speed will depend on the AC models. AirTouch 2 can automatically pick up the fan speed number and display them adaptively when the corresponding gateway is connected. Touch the fan speed pull down box will bring up available fan speeds and select the desired one by touching it.

Set Point can be set to desired value from AirTouch 2 screen by touching Up and Down buttons above/below the set point box. The low and high limits for the setting is 10 and 32 respectively.

NOTE: If 'AC Error' is displayed, it means AC has experienced problems. If the system has full AC control, the error number will be in the message box and can be used to trace the problem.

3.3 Group On/Off/Turbo

a) On the home screen, touch the On/Off button to change the group status and the dampers of the group will open or close accordingly.

b) The group status can be set to 'TURBO' active when the group is specified as a turbo group (refer to 5.4) and the grey turbo indicator will turn blue to indicate the TURBO function is active.

c) Up to 6 group buttons are shown in one screen. Touch > or < to bring up previous or next page.

If two ACs installed with two ducted systems, the groups are AC related.

If AC unit 1's status and control are shown on the left, the groups on the right are all connected to AC unit 1. Touch the ">" button on the right side of the AC unit name will bring up AC unit 2's status and control on the left, and the groups shown on the right are all connected to AC unit 2.

NOTE: A group can have up to a maximum of 4 zones. Your installer should have already set up your zones and groups.

3.4 Adjusting airflow for a group

- The damper opening percentage for every group can be adjusted to control the amount of airflow at every outlet between 10% and 100% of the balanced value (setup by Installer) at 10% increments.

- Touch > or < buttons next to group names to increase or decrease the percentage opening for the corresponding group.

- The airflow will be unadjustable if the Turbo function is active or Safety is activated. Pressing > and < will not change the opening percentage.

4) **Automated Control**

Automated on/off control for each group and the AC unit is an important feature of the AirTouch 2 system. This system has a program capability with three possible program settings, one for weekdays (Monday to Friday), one for Saturday and one for Sunday respectively.

Each program has 4 programmable events per day: on time 1, off time 1, on time 2 and off time 2. Each program event can be enabled/disabled and their time can be adjusted as desired. All four sets of program are disabled in the factory default.

NOTE: The Turbo function cannot be programmed. It is activated manually from the touch screen as needed.

Touch the 'Program' Tab to enter 'Programming'.

4.1 Set Program

Up to 4 programs and one AC timer can be set up for each ducted system.

a) Touch the button of the program (e.g. Program1) on 'programming' screen to enter the program time screen

b) Touch the relevant area to select Monday-Friday, Saturday or Sunday program and the ON or OFF operation to modify.

c) Use the time wheel to choose the time for each operation.

4.2 Select Program for a Group or AC

Enter the 'Assignment' screen by touching Assignment on programming screen. Assignment screen shows the list of the current program of each group and the AC Unit which will be the last item in the list if AC is set up.

Touch the program field of a group or the AC unit to show all program options. Touching a program option will assign the program to the group or the AC unit. Each group and the AC unit can be assigned with one program from program1 to program4 ('P1' to 'P4'), and the group will not have a program if 'No' is selected. If a program has been assigned to a group or AC unit, the program indicator will appear next to the group or AC button if any of the four events in the program is enabled.

NOTE: Programs cannot be assigned to a group with turbo status.
Record programs and groups to 'Table 5: Programs' on Page 16

4.3 AC Timer

AC timer function is useful for automatically switching the AC unit on or off at given time if AC is set up in AirTouch 2. You can use OFF Timer and On Timer in combination or separately. Each AC can have a timer if two ACs are installed.

a) Touch AC Timer on 'Program' screen to enter 'AC Timer ' setup screen.

b) Touch the relevant area to enable or disable the relevant timer, use the time wheel to set the time for the operation. The AC timer icon [AC🕔] will be on the status bar if the AC timer is set.

NOTE: If AC is not set up, AC timer will not be available. AC timer function is different from the program function, the enabled timer will act once and will not repeat. If you want the action repeated at the same time, you may look at programs.

5) User Settings

Touch User to enter 'User Settings' screen

In User Settings, you can set up owner's name, date and time, WiFi connection, Turbo group, temperature display and touch tone.

5.1 WiFi Setup

The instructions in this section demonstrate how to connect AirTouch 2 to a home router, which will enable the control/operation of AC unit and zoning via local WiFi and internet. When selecting a position for the AirTouch 2 main module to be installed, please make sure it is within the effective cover range of the home WiFi router which the AirTouch 2 will be connected to. This will ensure reasonable WiFi signal strength and provide a reliable connection between AirTouch 2 and the home router after they are connected and the main module is installed. It is highly recommended to undertake this setup by placing the AirTouch 2 main module as close as practical to the router, ideally about 1.5 to 2 meters, before installing the main module.

The connection can be carried out by scanning or manual input.

a) Touch 'User' and then 'WiFi' to enter the 'WiFi Setup' screen. If AirTouch 2 is currently connected to a WiFi network, its SSID name will be ticked.

b) If the wireless network SSID is known, touch SSID field to display the keyboard on screen and then input first few characters of the SSID. Touch Enter to confirm the SSID input.

c) Touch Scan to start scanning for available WiFi networks/routers. Or Touch Other… to bring up the manual input (go to step e)

NOTE: The system will scan and display two WiFi network SSIDs each time, so it will be more efficient if the correct SSID is input before scanning.

d) On completion of the scan, up to two found routers with their SSIDs starting with the input characters will be displayed. Touch the desired router's name and then go to next step. If the desired router is not in the list, go back to *b)* or touch Other… to go to manual input.

e) Touch the password field to enter the password of the WiFi network. Touch 'Enter' to confirm. In manual input, after inputting correct SSID and password, Security has to be chosen before connecting

Choosing found WiFi Networks   **Manual WiFi Network Input**

f) Touch 'Connect' to connect the desired WiFi network. 'Connecting' will appear on the screen.

g) The AirTouch 2's screen will display 'Connected' if the connection was successful. If Wi-Fi connection failed go back to *a)* to restart the process.

h) The Wi-Fi logo ((1)) will appear on the status bar after connecting to the WiFi network. The connection will stay permanent till the setting changes on the home router such as SSID, password, security levels, filters and others. The connection will automatically resume after power off and on cycle.

Now you can run AirTouch 2 applications on your smart devices to control AC or zoning.

5.2 Time/Date Setup

a) Touch Date/Time tab on the 'User' screen to enter the time/date setup screen.

b) Hour, Minute, AM/PM, day, month and year fields will be shown on the screen. Touch the field which need to be modified, then turn the wheels to change the value.

5.3 Owner's Name

Owner's name is used by mobile apps to distinguish different AirTouch 2 if more than one system installed in different locations. The maximum length of the name is 16 letters.

Go to Owner Name menu and touch the box next to Owner Name to change the owner's name by using the keyboard. Touch Shift to switch between lower case and upper case and touch Enter to confirm the name change.

5.4 Turbo Group

Touch 'Turbo Group' to specify a group as a Turbo Group. Turbo function will give the selected group a full-opening while all other groups' (dampers) opening positions are reduced by 50% of their open percentage value. This will bring a large volume of extra air into the designated area and cool or heat the area quicker. Typically this may be a family room, dining room or home theatre (or in commercial application a meeting, lunch or board room).

Touch the 'Turbo Group' field to display the list of available group name. Choose the desired group name as the turbo group. The turbo indicator will appear between the group name and its On/Off button.
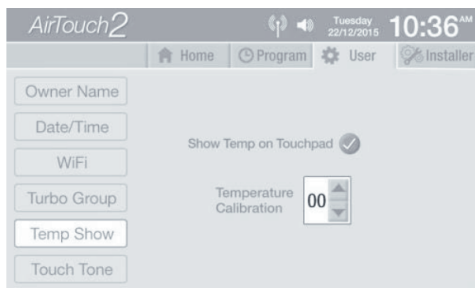
If two ducted systems installed, two Turbo groups can be set, one for each system.

NOTE: To make the specified group start to work in turbo mode, the group status need to be turn to 'turbo' on the home screen (3.2).

5.5 Temperature Display

Room temperature can be displayed on the touch screen or not by ticking or unticking the item.

If a gateway is connected to AirTouch 2, the temperature displayed on the touch screen is from the AC unit. In other cases, the temperature will be always measured at the touch screen.

Temperature Calibration is for adjusting the value read from the AirTouch 2 touchpad sensor. Users can change the value in line with AC wall controller or other more accurate temperature measurement.

5.6 Touch Tone

The touch tone feature allows to either enable or disable the tone when the screen is touched. It is disabled as default and will display a mute logo ◀× on the screen. Go to Touch Tone menu and touch the radio button to switch the touch tone on or off.

6) Information Sheets

These should be filled out by the installer

Table 1: System Configuration

Total Groups	Bypass Damper Installed	Supply Air Sensor Installed
	Yes/No	Yes/No

Table 2: Grouping

Group	Group Name	Zones Included	Turbo Function
1			
2			
3			
4			
5			
6			
7			
8			
9			
A			
B			
C			
D			
E			
F			
G			

Table 3: Balance

Zone	Balance Percentage
Zone 1	
Zone 2	
Zone 3	
Zone 4	
Zone 5	
Zone 6	
Zone 7	
Zone 8	
Zone 9	
Zone A	
Zone B	
Zone C	
Zone D	
Zone E	
Zone F	
Zone G	

Table 4: Installer Details

Installer	Contact Number	Date

Table 5: Programs

PROGRAM 1	On time 1	Off time 1	On time 2	Off time 2
Monday-Friday				
Saturday				
Sunday				
Groups/ACs				

PROGRAM 2	On time 1	Off time 1	On time 2	Off time 2
Monday-Friday				
Saturday				
Sunday				
Groups/ACs				

PROGRAM 3	On time 1	Off time 1	On time 2	Off time 2
Monday-Friday				
Saturday				
Sunday				
Groups/ACs				

PROGRAM 4	On time 1	Off time 1	On time 2	Off time 2
Monday-Friday				
Saturday				
Sunday				
Groups/ACs				

7) Troubleshooting Guide for Touch Screen

PROBLEM	SUGGESTED ACTION
Dampers have no response when turned on or off	• Check if the 'Safety' error is displayed. High limit (Heating) or Low limit (Cooling) may have reached. Check the air-conditioner to see if it is operating normally. AirTouch 2 system will resume to operational after the supply air temperature is within safety range. • *Check if Supply air sensor is plugged in the mainboard and High Limit & Low Limit is enabled. If the sensor is not plugged in, plug the sensor and the system will be operational after a minute. If the sensor is not required, disable High limit and Low limit from touchpad and system will return to operational in a minute. • *Check if LEDs on the main module light up for relevant zones when the zone dampers are being turned On/Off. If Green/Red LEDs are not activated for the respective zone, the main module may be faulty, replace it. • *Check if the cable from touchpad to the main control module is faulty. If it is a faulty cable, then replace the cable.
Some zones cannot be turned off	• Check if 'Spill' is displayed on the LCD screen. • Check if 'Spill' status is displayed for the Group status. Opening other zones will rectify the error • *If all zones are turned on with low opening percentage but the total opening percentage doesn't meet the required spill percentage, then the SPILL warning message will be displayed. Increasing the opening percentage of a few zones will resolve the issue. • *Check spill set-point.
No display on the LCD	• *Check if the cable is plugged in properly. Unplug the cable and reconnect it. • *Check if there is power to the unit.
LCD Display Corrupted	• Reset LCD by holding RESET button at the bottom of the Touchpad for 2s. • *If error is still not resolved, reset touchpad by unplugging the cable from behind and then reconnect it after about 15 seconds. If the corrupted display remains, power off/on the mainboard. Otherwise, replace the touchpad.
Some zones are not operational	• *Check Grouping and find out if the right zones have been assigned to the right groups and have been turned ON/OFF in Zoning section. • *Check if the total group number and zone number are correct. • *Check if the LEDs on the main module light up for the relevant zones when the zone dampers are turned On/Off. If there is no response, there might be a faulty cable and the cable would have to be replaced. If the zone is still non-functional then there might be a faulty damper motor.
'AC ERROR' is displayed on touchpad	• *This error is displayed due to a fault with the AC unit. The AC ON/OFF function will be disabled when this error is displayed. Please check the AC unit / AC touchpad to fix the problem.

: These checks should be carried out by qualified personnel.
If you have any doubt regarding the above please contact your installer.

8) **AirTouch 2 Apps**

8.1 Downloading and Installing the AirTouch 2 Apps

AirTouch 2 applications can be downloaded from the following locations. The applications are available free of charge.

For Android Phones: Go to Market / Google Play store from your Android phone and search for AirTouch 2 application developed by Polyaire. After downloading the application, open the file and follow the prompts to install the application on your phone. The AirTouch 2 App supports Android 3.0. and newer

For iPhones: Go to the App store and search for AirTouch 2 application developed by Polyaire. Tap on the AirTouch 2 App and press Install. Enter your iTunes password and the AirTouch 2 app will be automatically downloaded and installed on your iPhone. The AirTouch 2 App supports iOS 8.0. and newer.
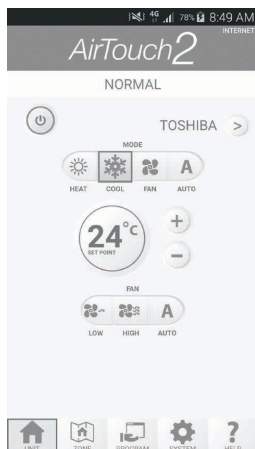
8.2 Using AirTouch 2 Apps.

When mobiles and AirTouch 2 are all connected to the same WiFi network, the AirTouch 2 app will run straight away and the control interface will come up. Otherwise, you'll need internet connection (via other WiFi networks or 3G/4G network) and password to run the app. If it's the first time to run the app via internet and the app has not successfully run on the same WiFi network as the AirTouch 2 before, you will need the device ID and password to run the app successfully. The device ID can be found:

1. On the touch screen when you get to the Installer's setting page
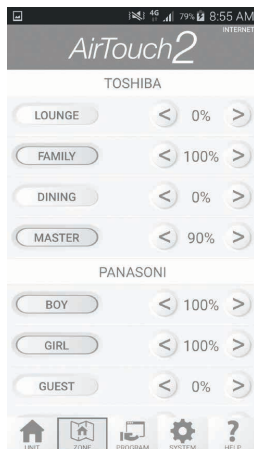2. On the cover of the main module of AirTouch 2

The Figures below shows the home page of the app.

The operations are simple and straight forward.

AC On/Off Control　　**AC Full Control**　　**Zone Control for Two Ducted Systems**

NOTE:

- Turbo zone can be activated by tapping the respective chosen zone until active Turbo icon appears on that particular zone.
- Temperature display can be turned off from System
- To change names of group/zone, go to System, then Naming page and follow the prompts.
- Password for Internet access can be changed in System
- To program groups/zones and AC unit, or set timer for AC unit, go to Program and follow the prompts. The time set in the programs and Timer will be time of the AirTouch 2 system.

8.3 Troubleshooting Guide for AirTouch 2 App

NO	PROBLEM	SUGGESTED ACTION
1	AirTouch 2 app displays "No networks detected restart"	a) Close the AirTouch 2 app and restart again. b) Check if the phone WiFi is turned ON and is connected to the same router which the AirTouch 2 is connected. c) Check if there was a power failure. If so, wait for AirTouch 2 to re-establish connection with the home router (3 minutes from Power ON). Now check if the WiFi icon (((↑))) is back on the screen and then try re-opening the app. If WiFi icon does not appear refer to point 2.
2	WiFi symbol (((↑))) disappeared from the touchpad.	a) After a power failure, AirTouch 2 will re-connect to home router and WiFi icon (((↑))) will be back on in 3 minutes from Power ON. b) Turn the wireless router OFF and turn it back ON. Wait for 3 minutes for the AirTouch 2 system to initialise. c) If WiFi icon (((↑))) does not appear, follow WiFi setup process to re-establish connection between your home router and AirTouch 2.
3	AirTouch 2 app does not respond even if the app is in operation. 'Send message error' is displayed.	WiFi connection may have dropped due to no action from the mobile for a period of time. a) Close the AirTouch 2 app and restart it. b) Or Turn the phone off and restart it.
4	'SPILL' warning message is displayed	This means that the spill function has been activated as a safety measure because too many zones have been turned OFF. Turning ON more zones will resolve the issue.
5	'SAFETY' warning message is displayed	This message means the safety protection has been activated due to very high or low temperatures reached at the supply air end. Please check the AC system to fix the problem.
6	'HALF/ONE/TWO YEAR SERVICE DUE...' message is displayed	This is the message set-up by your installer to alert you to clean your filters or service your air-conditioner every 6 months, 1 year and 2 years respectively. This message can be removed by touching the message area on the touchpad.
7	'AC ERROR', warning message is displayed	This error is triggered due to a fault with the AC unit connected to. Please check the air-conditioning system to resolve the issue.

: These checks should be carried out by qualified personnel.
  If you have any doubt regarding the above please contact your installer.

9) Specifications

Electrical Requirements

Power supply:	24V AC ±10%
Line frequency:	50 Hz

Components Power Consumption

Touchpad:	0.5 VA
Main Control Module:	5 VA

Environmental Requirements

Operating temperature:	0°C to 60°C
Altitude:	0 to 2000 meters
Operating relative humidity:	10% to 80%

Avoid static electricity hazards
Avoid electromagnetic radiation sources
Avoid dust contamination
Avoid highly corrosive environments

Zone Output

Output voltage:	24VAC, 50Hz
Current:	200mA (1 damper motor)

Transformer

Input Voltage:	240VAC, 50Hz
Output Voltage:	24VAC, 50Hz
Wattage:	40W

Supply Air Sensor: NTC type, 10 kΩ at 25°C

Battery: 3.0V, ML 2032
Rechargeable for Main Module

Fuse: Dimension 5x20 mm,
Fast-Acting 2A, 250V

POLYAIRE PTY LTD

11-13 WHITE ROAD
GEPPS CROSS
SOUTH AUSTRALIA, 5094
TEL: (08) 8349 8466
FAX: (08) 8349 8446

www.polyaire.com.au