MICHAELMWATCH

Bluetooth Watch User Manual Draft

Watch Firmware v0.7.15
Android APK v0.1.9b

Getting Started

Starting the Watches

Charge your watch. Attaching the clip may cause the watch to reset. This is only for Beta units. It is due to the Reset pin used for 2-wire JTAG (embedded debugging) being turned ON by default.

Resetting the watch causes pairing information to be deleted. This (pairing information) will be stored in Flash memory in the next revision of software. If you reset while paired, be prepared for a new pairing request.
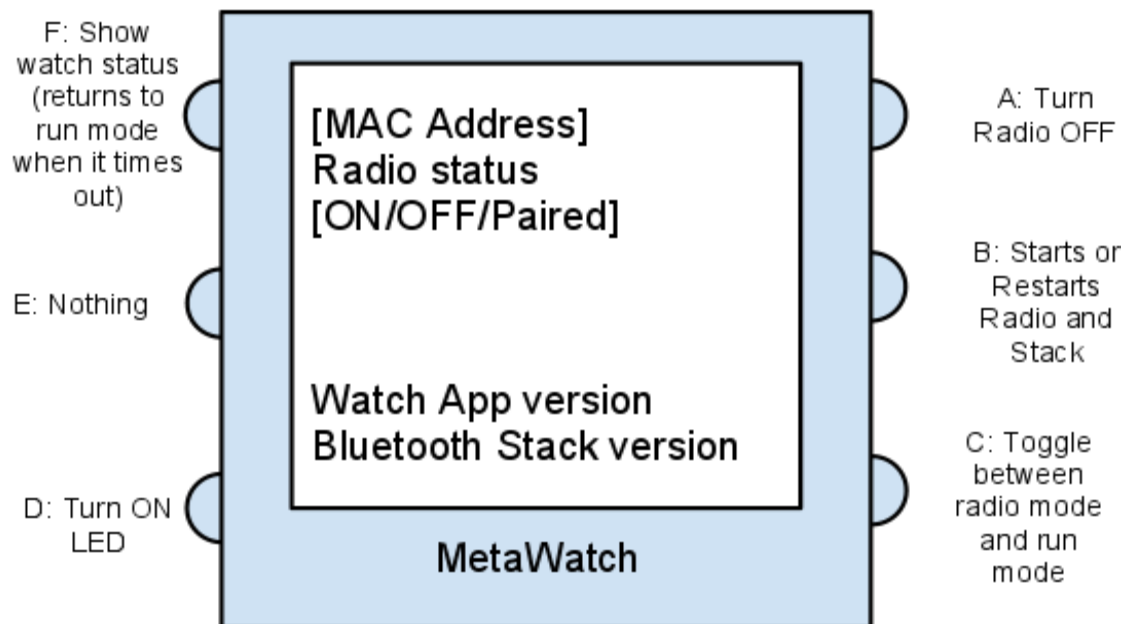
If you are using a large grey charge clip that has an 18 pin ribbon connector on the back, you should attach your clip to the watch BEFORE applying power via the micro USB socket.

If you are using the small black clip with only a micro USB socket, then you should be able to attach to the watch however you like. It may be possible to short the power against the steel case back; there are protections in place to limit any damage, but you may notice the clip getting hot if this occurs. Try to verify that everything is seated correctly and that the watch is charging.
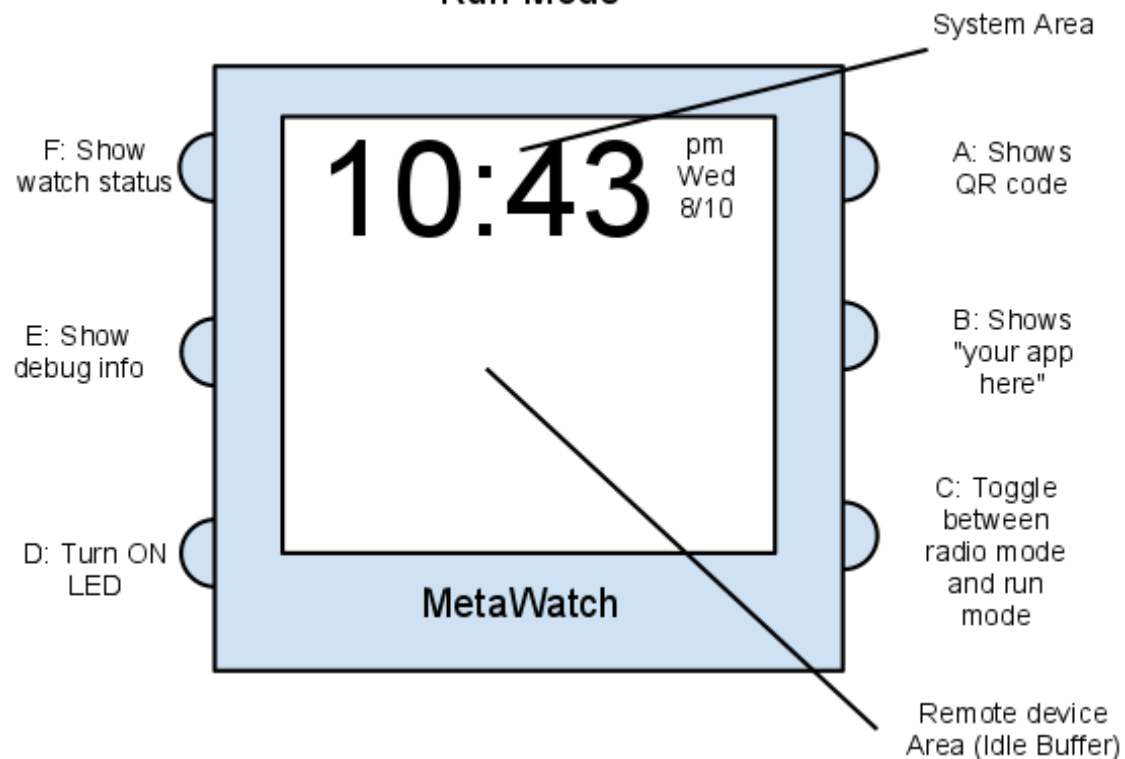
Digital Watch

There are 6 buttons on the digital watch. When booted the digital watch has these functions (mostly for demonstration and debug). The watch boots in a "radio mode".

Radio Mode

F: Show watch status (returns to run mode when it times out)

E: Nothing

D: Turn ON LED

[MAC Address]
Radio status
[ON/OFF/Paired]

Watch App version
Bluetooth Stack version

MetaWatch

A: Turn Radio OFF

B: Starts or Restarts Radio and Stack

C: Toggle between radio mode and run mode

Run Mode

System Area

F: Show watch status

E: Show debug info

D: Turn ON LED

10:43 pm
Wed
8/10

MetaWatch

A: Shows QR code

B: Shows "your app here"

C: Toggle between radio mode and run mode

Remote device Area (Idle Buffer)

Analog Watch

There are 3 buttons on the Analog watch. When booted the analog watch has no UI functions.

This is a temporary situation. There will be a default analog watch UI similar to the digital watch UI.

Starting the Android APK (Meta Watch app)

Enable 3rd party app installation from Unknown Sources; this check box is found in Settings->Applications on Nexus S OS 2.3.

The APK file can be installed by installing from a GMAIL account or by loading on the SD card via USB and then browsing for the file using a file manager application. We use Astro File Manager.

Once installed, you should be able to open the app (named "MetaWatch", press the Android Menu button and go to "Settings".

1. Under the 'Notifications' title, you can check or uncheck the items you want pushed to the watch. Some are experimental, such as Gmail and Alarm which do not have official APIs from Google to get reliable information.
2. Under the 'Device' title; use Select Watch to discover and select your watch. Be sure your phone has Bluetooth turned on. You should see your watch's MAC address displayed on the phone. Alternatively, you can use the MAC button to manually enter your MAC address. Skip this for now.
3. Under the 'Other' title. Here there are two experimental check boxes for the digital watch only, one labeled "Music Controls" which turns the buttons on the the 9 o'clock-side of the watch (D, E, and F Idle buttons) into a music control cluster. The other is labeled "Last Notification Replay" which turns button B into a signal to the phone to replay the last notification you received again (does not replay transient notifications like calls or alarms).

Select the "font size" and "weather location" that works best for you. The weather location is a free form field, you should be able to put a city, or zipcode. It requires an HTTP data connection.

The "Packet Wait" setting is for debugging and should be set to 0 (zero).

"Invert LCD" changes the LCD from White on Mirror to Mirror on White. Play around with it to see what you like best, but implementation is incomplete and may require you to start and stop the Meta Watch APK service.

Keep 'Skip SDP Lookup' unchecked. It is for debugging.

'Test SMS loop interval' is for debugging.

Press 'Back' to go back a screen.

Pairing and Connecting

Here is the procedure:

1) Make sure the watch is charged and the radio is ON. (For analog, you may need to reset the watch to ensure the radio is on) -- Right now, the watch will stay ON with no connection for 10 minutes. After that, it will turn OFF and you will need to start it again.
2) In the App, hit Menu->Settings->Select Watch
3) Select your watch from the menu. The name of the watch should include "Fossil" and "Analog" or "Digital". You should make sure the MAC address matches if there is more than one watch around.
4) Once the watch is selected, press 'back'
5) Press Menu->Start
6) The Application will start searching for the watch and connect to it. If you paired using the Android pairing menu, then it should simply connect. If you have not paired yet, then you will get a pairing request. Sometimes the pairing request pops up, or sometimes it goes in your notification system bar at the top of the screen. You may need to pull this down and press the 'pairing request' notification to get the dialog.

When connected the logo for the MetaWatch serivice displays a tiny watch in the system bar.

The MetaWatch App will remember the MAC address of the watch you selected permanently. you do not need to select watch again unless you change watches or you delete the information.

Disconnections

If you wander too far away, if you turn off the radio, reset, stop or exit the android service, etc, the connection will drop.

When the watch loses the connection, it immediately goes to the radio screen and tell's you "paired". It will stay this way for 10 minutes and then turn off the radio (future builds will put the watch on standby as long you leave it alone). If the watch's radio is ON (or paired), it will reconnect automatically when the phone is back or the service on the phone starts again.

When the phone loses the connection, the phone will start displaying a pop-up error for a java error and a Service Discovery Failed error alternating. This is normal, just a little annoying. You can stop the errors by open the app and doing Menu-Stop. remember to start it again when you want to connect to a watch.

How to Reset

Software Reset Digital Watch:
Software reset: Press and hold button C for 10 seconds. The watch should reset when you release the button.

Software Reset Analog Watch:
No software reset method at the moment.

Hardware Reset (both):
Flip the watch over so you can see the four gold pins on the back. Take the metal part of the buckle and touch it to the last two pins on the 6 o'clock side. Shorting these two pins can reset the watch.

If you have had a big enough software crash (usually associated with phone's that misbehave), then you may need to wait for the batteries to run out if all else fails.

You can connect to the USB debugger and send a reset signal. Let me know if you need that.

Connecting the charger can cause a reset at the moment (because of a debugging signal that's on)

There is a way to remove and reinsert the battery. Let me know if you need that.

Trouble Shooting

If you notice any corruption of the display or slow reactions to the phone events, there may be an issue with the particular phone you have. Try resetting the watch and see if it happens every time. Let us know if it happens right away, after 10 minutes, or a day or a week along with the description and your phone make/model/service provider/OS version.

Selecting the experimental functions like "music controls" can take over your buttons and prevent you from using the base UI (like the LED). This is just experimental stuff right now.

Use the upper left button (button F) to check on your battery level. If your phone supports Sniff mode like it should, this should last you ~4 days with today's software.

Since we have the Reset pin on the back active, sweat can actually cause the reset right now. If you notice your watch acting funny any you're sweaty, take it off and see if it works better. A small piece of scotch tape to cover these will do the trick if this is happening to you. Future builds will have this OFF by default, but it's too useful right now.

If you really have issues you can't figure out, try a hard reset of the watch (see above) and a hard reset of the phone (turn off, pull battery, wait, put battery back in, boot). You may also want to delete the paired information from the Android Settings->Wireless->bluetooth and the MAC address from the MetaWatch App. Please report back.

Phones Tested

The list is still growing, but there are reports of issues with the Bluetooth functions of Samsung Galaxy S and HTC Evo that need validation.

Tested and works
Dell Streak OS 2.2
Nexus One OS 2.2, 2.3
Nexus S OS 2.2, 2.3
Samsung Galaxy Tab 10.1 (Google IO edition) OS 3.0
Motorola Droid (Verizon) OS 2.1

Does Not Work (reported without lab testing)

Samsung Galaxy S
HTC Evo
Samsung Infuse
Droid X

Contact

David Rosales
drosales@fossil.com
mobile:+1.214.704.4218
@davidro

METAWATCH

Product Information for WDS111 and WDS112

FCC Statement

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.

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 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.

This portable transmitter with its antenna complies with FCC/IC RF exposure limits for general population / uncontrolled exposure.

Industry Canada Statement

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its

gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le prsent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorise aux deux conditions suivantes:
1) l'appareil ne doit pas produire de brouillage, et
2) l'utilisateur de l'appareil doit accepter tout brouillage radiolectrique subi, mme si le brouillage est susceptible d'en compromettre le fonctionnement

CE Declaration of Conformity for WDS111 and WDS112

We, Fossil Partners, L.P. of
2280 N. Greenville Ave.
Richardson, TX 75082
USA
declare under our sole responsibility that our products

Meta Watch models WDS111 and WDS112

And in combination with our accessories, to which this declaration relates is in conformity with the appropriate standards EN300 328:V1.7.1, EN 301 489-17:V2.1.1 and EN 60 950-1:2006 following the provisions of, Radio Equipment and Telecommunication Terminal Equipment directive 1999/5/EC

$$C \in 0000$$

Richardson, TX USA 30 June 2011

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Bill Geiser,
Vice President of Watch Technology

We fulfill the requirements of the R&TTE directive (1999/5/EC)

Bluetooth® Statement

This product contains QDID B015490 and QDID B016770.

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