

CONNECTING TO A LAN WITH 802.11b **6**

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6.1 Installing The 802.11b Radio

The WORKABOUT PRO operates with an 802.11b Direct Sequence Spread Spectrum radio. The CF (Compact Flash) card is easily installed in the unit.

- To begin, remove the battery pack. If your unit is using AC power, disconnect it.
- Remove the stylus from the end-cap before removing the end-cap itself.
- Remove the end-cap at the top of the WORKABOUT PRO – unscrew the four Philips head screws from the cap.

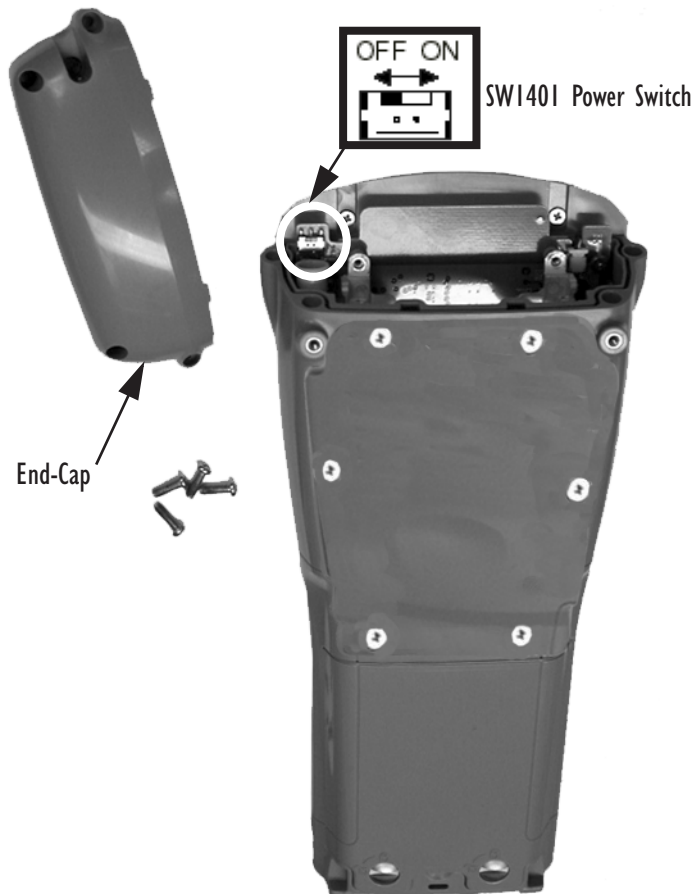


Figure 6.1 The End-Cap And The SW1401 Power Switch

Installing The 802.11b Radio

- Slide the SW1401 switch to the left to shut off internal battery power.
- With the back of the hand-held facing you, slide the radio (label up) into the CF slot at the top of the unit until it clicks into place.

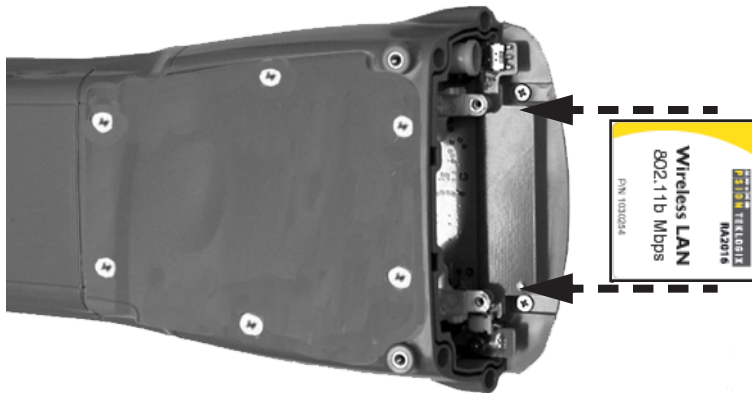


Figure 6.2 Inserting A CF Card

Once the radio is installed, you'll need to attach a CF card stopper to hold the radio in place.



Figure 6.3 CF Stopper

- Fit the CF stopper over the card, and use the four screws provided to secure the stopper in place.



Figure 6.4 CF Stopper Installed

- Install the battery, and replace the backplate.
- Slide the SW1401 switch to the right to turn power back on.
- Replace the end-cap, and tighten the four Philips screws to secure the end-cap.



Important: *The WORKABOUT PRO does not support hot swapping cards. All power sources must be switched off before inserting a card in the unit.*

6.2 Connecting To A LAN Using An 802.11b Radio

Once the 802.11b radio is installed in the WORKABOUT PRO, you'll need to take a few steps to configure the radio.

6.2.1 Configuring An IEEE 802.11b Radio

While most common 802.11b settings are configured as defaults, there are some fields that must be completed, including the SSID of your access point and the security methods implemented in the network (including access keys).



Important: *If the WORKABOUT PRO radio has never been configured, the radio settings dialogue box will open automatically when the unit is powered on. In this case, skip to Step 4 on page 113.*

To configure the 802.11b radio:

1. Tap on the Start button in the taskbar, and tap on Settings>Network....



Figure 6.5 Network And Dial-Up Connections



Note: *You can also press <CTRL> <ESC> to display the Start Menu.*

2. Tap on the radio icon to open the 802.11b Wireless LAN Settings window – in the sample screen this is labelled NETWLAN1.

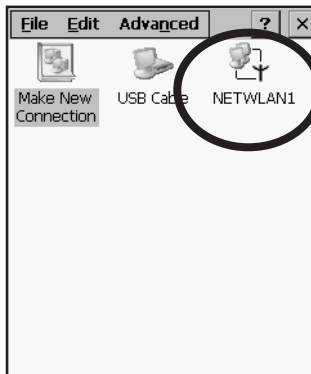


Figure 6.6 802.11b Wireless LAN Settings Window

3. Wireless Statistics Tab

When you choose the Wireless LAN icon, an 802.11b Wireless LAN Settings window (NETWLAN1 in the sample below) is displayed.

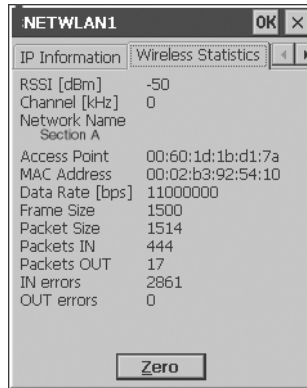


Figure 6.7 Wireless Statistics

This tab lists your radio statistics. Tapping on the <Zero> button resets the statistics of the last four items – Packets IN, Packets OUT, IN errors and OUT errors.

- Tap on the Wireless Information tab.

4. Wireless Information Tab

The options under this tab list existing networks to which you can connect, and it allows you to add a new network or modify the settings for an existing network.

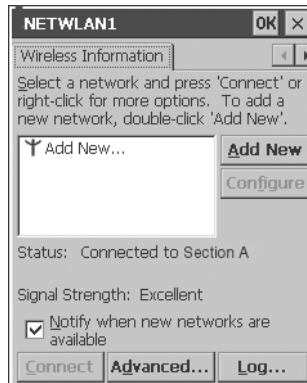


Figure 6.8 Wireless Information Tab



Note: <Configure> button – To change the settings in an **existing network**, highlight the network you want to modify, and tap the <Configure> button to display the **Wireless Properties** dialogue box.

<Connect> button – To force connection to a specific, **existing network**, highlight the network to which you want your unit to connect, and tap the <Connect> button.

This tab lists *available* networks – any access points that are broadcasting an SSID, and it lists *preferred* networks – networks that you have configured. Since access points are generally secure, they will most likely not be listed here. By default, the unit attempts to connect to preferred networks. This behaviour can be changed by enabling (√) ‘Automatically connect to non-preferred networks’ in the **Advanced** dialogue box (page 118).

- To **add** a new configuration, tap the <Add New> button. A blank **Wireless Properties** dialogue box is displayed.

5. Wireless Properties



Figure 6.9 Wireless Properties Dialogue Box

Network name (SSID):

- Type the appropriate SSID (Service Set Identifier) in the ‘Network name (SSID):’ text entry field at the top of this dialogue box.

The Network name field can contain a maximum of 32 characters. The name assigned here is listed as a *preferred* network.



Important: *Keep in mind that the WORKABOUT PRO will only communicate with access points that are configured with the same SSID.*

Ad Hoc And Infrastructure

If you are using an “Infrastructure” network – one in which WORK-ABOUT PROs must pass data through an access point – leave the checkbox next to ‘This is an ad hoc network’ **blank**.

If you are using an “Ad Hoc” network – a network in which hand-held computers pass data **directly** to other hand-helds without an access point – tap on the checkbox next to ‘This is an ad hoc network’ to enable (✓) Ad Hoc.

Encryption

WEP (Wired-Equivalent Privacy) encryption prevents others from accidentally accessing your network. If you are **not** using encryption, you can choose ‘Disabled’ from the dropdown encryption menu. Otherwise, leave this field as is.

Authentication

802.11b supports two subtypes of network authentication services: **Open** and **Shared**. Under **Open** authentication, any wireless station can request authentication. The station that needs to authenticate with another wireless station sends an authentication management frame that contains the identity of the sending station. The receiving station then sends back a frame that indicates whether it recognizes the identity of the sending station.

Under **Shared** authentication, each wireless station is assumed to have received a secret shared key over a secure channel that is independent from the 802.11b wireless network communications channel.

Network Key:

This text box is used to specify a 5 or 13 ASCII character sequence or an equivalent 10 or 26 Hexadecimal digit sequence that matches the active WEP key on the access point.

- To assign a Network key, tap the stylus in the checkbox next to 'The key is provided automatically' to remove the ✓ and *disable* this option.

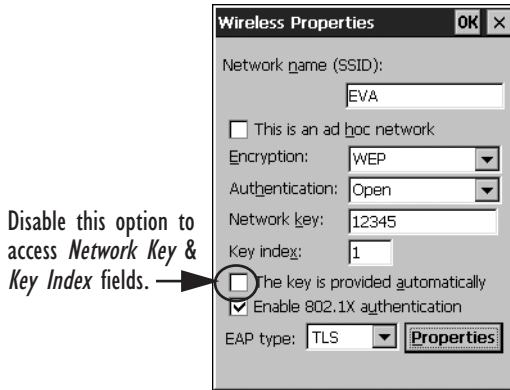


Figure 6.10 Accessing Network Key And Key Index

Key Index:

This field is used to identify the WEP key.

- Enter a value from 1 to 4.

Enable 802.1x authentication

“802.1X” is the IEEE standard that offers additional security for local area networks. It provides authentication for user devices attached to an Ethernet network, whether wired or wireless. A security protocol packet such as TLS or MD5 encapsulated in an “EAP” is used in conjunction with the “802.1x” standard to authenticate users at the MAC layer. Available EAPs are listed in the dropdown menu next to the ‘EAP’ option.

- To activate “802.1X”, tap the stylus in the checkbox next to ‘Enable 802.1x authentication’ to enable (✓) it.

EAP Type (Extensible Authentication Protocol):

This dropdown menu lists the EAP types available on your system. The items in this dropdown menu will vary depending on your network setup. Keep in mind also that some authentication protocols require that you select a ‘Certificate’. By selecting the **Properties** button, you will be able to select a Certificate. “Certificate Assignment” on page 77 provides a website that outlines how to create certificates for your network.

6. Saving and exiting the radio setup.
Once you have completed your configuration, tap on <OK>.

The connection you created will be listed in the **Wireless Information** tab as a preferred network. The radio will search for the SSID and will compare the WEP and authentication information you specified. If there is a match between your WORKABOUT PRO settings and the access point settings, the WORKABOUT PRO will communicate on the network through the access point.

6.2.2 Assigning An IP Address

If your network is *not* using a DHCP server, you will need to assign an IP address.

- In the **NETWLAN1** Settings window, display the IP Information tab.

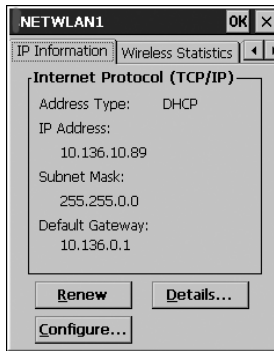


Figure 6.11 IP Information



Note: Tapping on the <Renew> button forces the WORKABOUT PRO to renew or find a new IP address. This is useful if, for example, you are out of communication range for a longer period of time and your hand-held is dropped from the network.

- Tap on the <Configure...> button to define a static IP address.

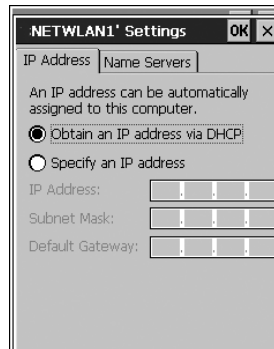


Figure 6.12 Defining An IP Address

Name Servers Tab

- Tap on the radio button next to 'Specify an IP address' to select it.
- Type the appropriate address in each of the fields – IP Address, Subnet Mask and Default Gateway. Tap on <OK> to save your information.

6.2.3 Name Servers Tab



Note: *If DHCP is enabled, name server addresses are assigned automatically.*

- In the NETWLAN1 Settings window, display the IP Information tab.
- In the IP Information tab, tap the <Configure...> button.
- Display the Name Servers tab.

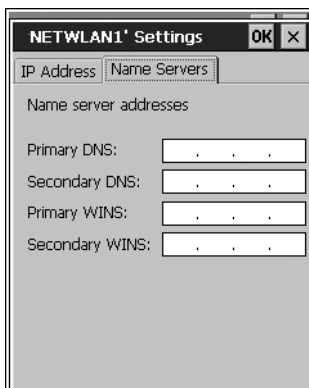


Figure 6.13 Name Servers Tab

The DNS and WINS fields in the Name Servers tab allow you to specify additional WINS and DNS resolvers. The format for these fields is ###.###.###.###.

6.2.4 Advanced Features

To display the Advanced Wireless Settings dialogue box:

- Tap on the <Advanced...> button in the Wireless Information tab.

This window lists the available preferred networks.

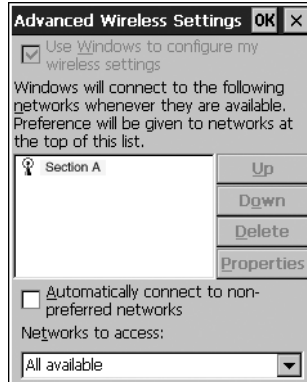


Figure 6.14 Advanced Settings

6.2.4.1 Rearranging Preferred Networks

The WORKABOUT PRO attempts to connect with the networks listed in this dialogue box *in sequence, beginning at the top of the list*. If you need to rearrange this list of networks – move networks up and down in the list:

- Highlight the network that you want to move up or down in the list.
- To move the highlighted item in the list upward or downward, tap the stylus on the <Up> or <Down> button.

6.2.4.2 Deleting A Preferred Network

To delete a network from this list:

- Highlight the network that you want to remove in the network list.
- Tap on the <Delete> button.

6.2.4.3 Changing Network Properties

To change the properties of an existing preferred network:

- Highlight the network that you want to modify.
- Tap on the <Properties> button.
- Make any necessary changes in the **Wireless Properties** dialogue box, and press <ENTER> to save the changes.

EXPANSION MODULES



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7.1 Expansion Modules

Easily installable expansion modules available for the WORKABOUT PRO allow you to customise this hand-held to meet your specific mobile computing requirements. This chapter outlines how to install the following expansion modules: PCMCIA, GSM/GPRS and SE 1223HP scanner.

7.1.1 Removing The End-Cap And Back Plate

To install a module, you'll need to remove the end-cap and back plate on the WORKABOUT PRO. This is a simple process of unfastening four screws on the end-cap and six screws on the back plate.

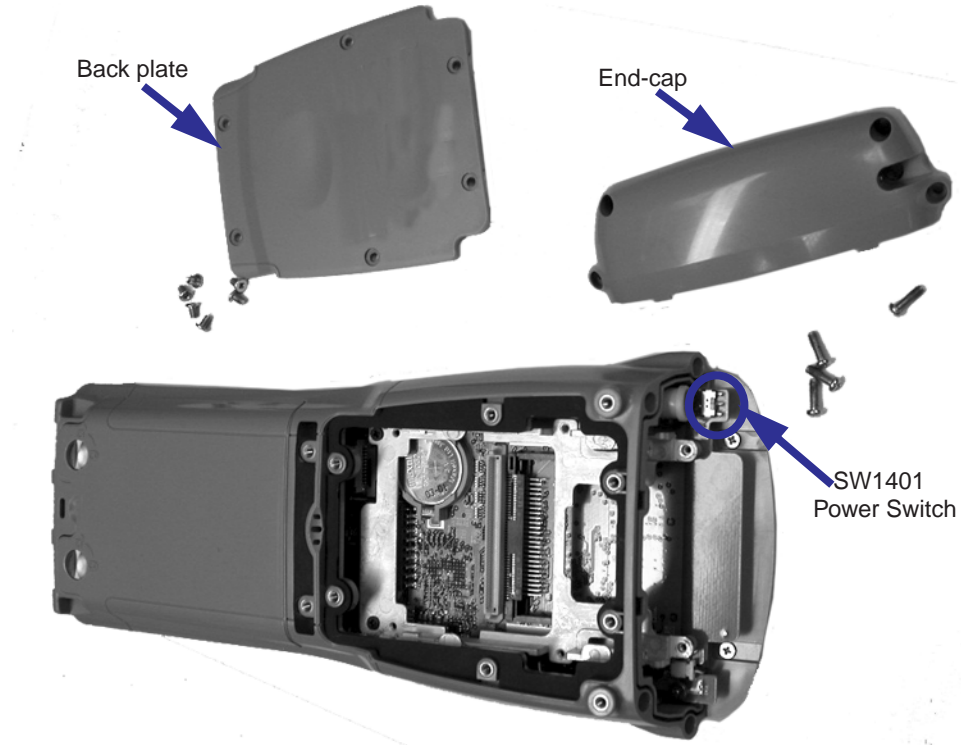


Figure 7.1 Removing The End-Cap And Back Plate

7.1.2 What's Inside

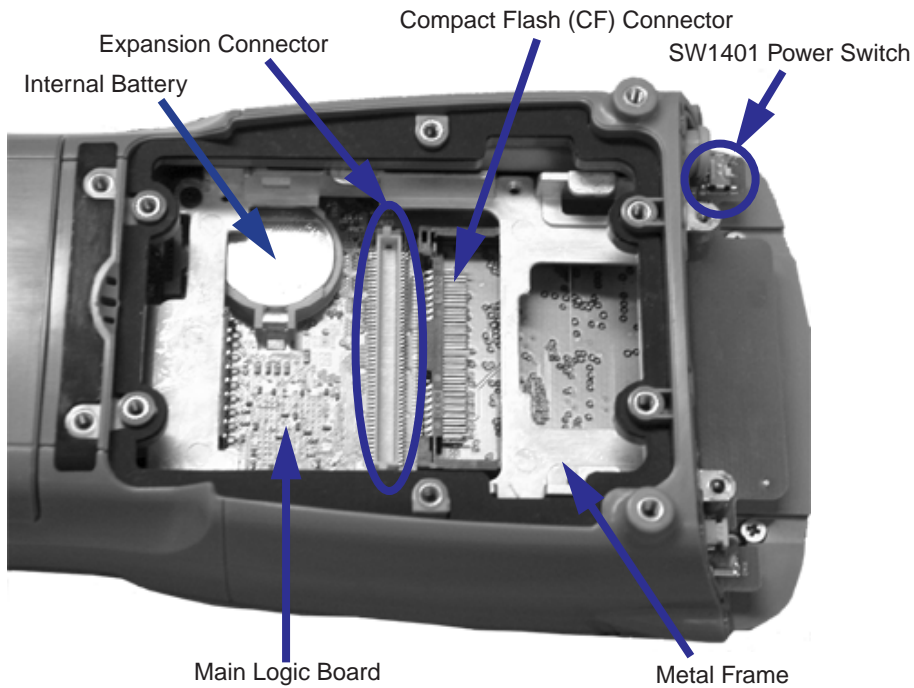


Figure 7.2 Standard Features

7.1.3 Shutting Off Power

Before installing a module or card in the WORKABOUT PRO, all power sources must be turned off.

- Remove the batteries. If your unit is using AC power, disconnect it.
- Remove the stylus from the top of the unit.
- Remove the end-cap, and slide the SW1401 switch to the left to shut off internal battery power.



Figure 7.3 SW1401 Power Switch

7.1.4 Installing The PCMCIA Module



Important: *The WORKABOUT PRO does not support hot swapping. All power sources must be turned off before inserting any card or module in the unit.*

To insert a PCMCIA PC card in your WORKABOUT, you will need to install a PCMCIA module equipped with a 100-pin connector. This module snaps onto the expansion connector on your WORKABOUT PRO.



Figure 7.4 PCMCIA Module

- Remove the batteries. If your unit is using AC power, disconnect it.
- Remove the end-cap and back plate.
- Slide the SW1401 switch to the left to shut off internal battery power.
- Remove the two screws at the top of the metal frame.
- Align the connector on the PCMCIA module with the expansion connector on the hand-held, and gently snap the PCMCIA module connector into the expansion connector.
- Using six screws, fasten the module into place on the main logic board. Remember to replace the two metal frame screws to secure the module and frame in place.



Important: *Once the PCMCIA module is installed in the unit, you do not need to remove the back plate to insert a PCMCIA PC card. Just remove the end-cap and slide the card into the unit.*

- Apply gentle downward pressure to securely seat the card in the connector.



Figure 7.5 Inserting A PCMCIA Card

- Slide the SW1401 switch to the right to turn power back on.
- Replace the end-cap, back plate and batteries.

7.1.5 Installing A GSM/GPRS Module

The GSM/GPRS module accommodates a GSM radio and a SIM card and is equipped with a built-in antenna. The module snaps onto the expansion connector on your WORKABOUT PRO.

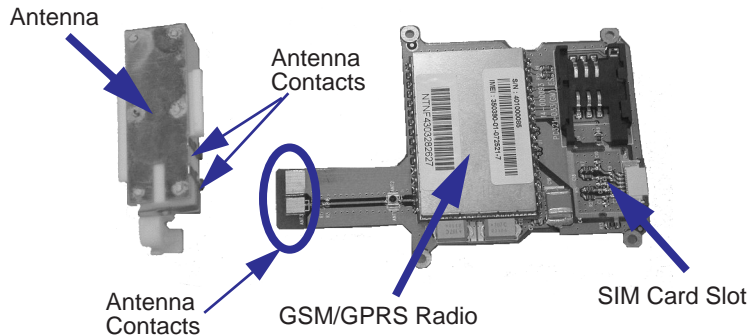


Figure 7.6 GSM/GPRS Module

Chapter 7: Expansion Modules

Installing An SE 1223HP Scanner

- Remove the batteries. If your unit is using AC power, disconnect it.
- Remove the end-cap at the top of the WORKABOUT PRO.
- Slide the SW1401 switch to the left to shut off internal battery power.

With the power shut down, you can install the GSM/GPRS module and the antenna.

- Slide the GSM/GPRS radio under the metal frame, and align the GSM/GPRS connector with the expansion connector on the WORKABOUT PRO. Apply slight pressure to snap the module into place on the hand-held.
- Use the screws provided to secure the module in place.
- Fit the antenna at the top of the unit making certain that the antenna contacts are aligned with the contacts on the GSM/GPRS module.
- Use the screws provided to secure the antenna on the metal frame.

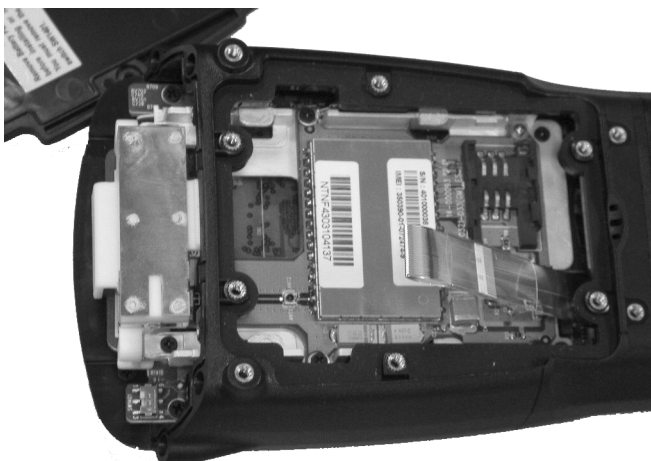


Figure 7.7 An Installed GSM/GPRS Module

- Slide the SW1401 switch to the right to turn power back on.
- Replace the end-cap, back plate and batteries.

7.1.6 Installing An SE 1223HP Scanner

The SE 1223HP scanner is the internal scanner module available with the WORKABOUT PRO. To install it:

- Remove the batteries. If your unit is using AC power, disconnect it.

- Remove the stylus and then, remove the end-cap at the top of the WORKABOUT PRO.
- Slide the SW1401 switch to the left to shut off internal battery power.
- Remove the back plate from the unit.

A scanner flex cable is already attached to the WORKABOUT PRO. You need to connect the flex cable to the internal scanner module.

- On the scanner module, pull the tabs on either side of the connector up.
- Using pincers, insert the flex cable into the connector on the scanner module.
- Push the connector tabs down to secure the flex cable in place.

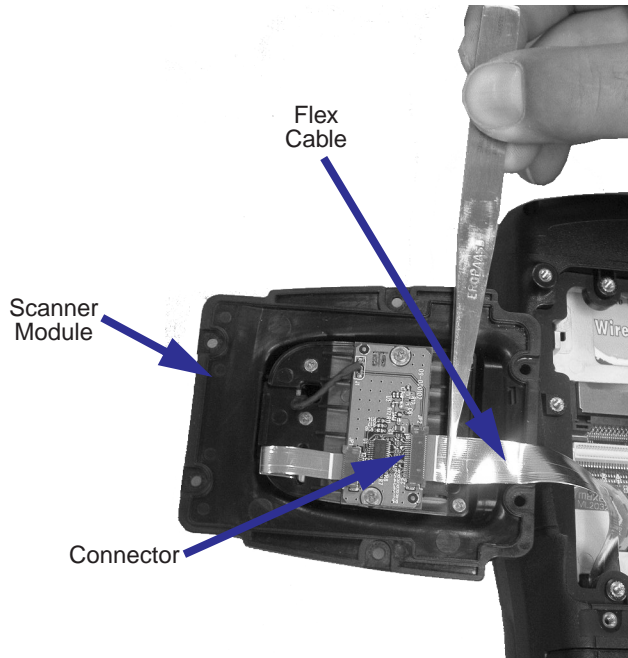


Figure 7.8 Attaching The Flex Cable To The Scanner Module

- Fit the scanner module over the back of the WORKABOUT PRO – it replaces the back plate of the unit.
- Fasten the module in place with the screws provided.

Chapter 7: Expansion Modules
Installing An SE 1223HP Scanner

- Slide the SW1401 power switch to the right to turn power back on, and replace the end-cap, backplate and batteries.



Figure 7.9 Scanner Module Installed In WORKABOUT PRO