Chapter 11
Installing the analog terminal adapter

This section provides installation instructions for the analog terminal adapter 2 (ATA2) or ATA. The ATA2 connects a standard analog voice device or data communication device to the BCM50 system through a digital station module. Examples of analog voice devices are analog telephones and answering machines. Examples of analog data communication devices are modems and fax machines.

The ATA2 is designated as either an ONS (on-premise station) or an OPS (off-premise station) port.

For information about installing an ATA2:

- Configuration overview on page 119
- Installing the ATA2 on page 120
- Configuring the ATA2 on page 123

For ATA2 specifications, see the table ATA2, ASM8, ASM8+, GASM, and GASI analog device specifications on page 47.

Configuration overview

This section describes environment configurations for connecting analog and data devices to the main unit using an ATA2:

- Analog telephone on page 119
- Analog data device on page 120

Analog telephone

The figure Analog telephone installation overview on page 119 shows an installation overview for connecting an analog device through an ATA2 to the main unit.

Figure 53 Analog telephone installation overview
Analog data device

The ATA2 connects a standard analog data device, such as a fax or modem, to the BCM50 system. The figure Data communication device installation overview on page 120 shows an installation overview for connecting a data communication device through an ATA2 to the BCM50 system.

Figure 54  Data communication device installation overview

Installing the ATA2

This section provides information about installing the ATA2:

- Connecting the ATA2 on page 120
- Mounting the ATA2 on page 121
- Test insertion loss measurement on page 122

Connecting the ATA2

After you set up the correct environment, connect the BCM50 system and the analog device to the ATA2, and then connect the power. See the figure ATA2 top view on page 120.

Figure 55  ATA2 top view

The figure ATA2 pin outs on page 121 shows the pinouts for the connection cables.
To connect the ATA2

1. Connect one end of a line cord to the ATA2 terminal jack.
2. Connect the other end to your telephone, modem, or fax.
3. Connect one end of a line cord to the ATA2 line jack.
4. Connect the other end to an available station port on the BCM50 system.
5. For a 120 V or 230 V system, plug the DIN connector of the power supply cord into the power supply connector receptacle. Plug the adapter into a standard AC outlet.

Caution: In North America, the ATA2 must be powered from a Class 2 power source that is UL- and CSA-approved.
In Europe, the ATA2 must be powered from a Class II power source that is CE marked.

Mounting the ATA2

After the ATA2 is correctly connected, you can mount the unit on a wall as described in this section.

To mount the ATA2 on a wall

1. When using 0.5 mm wire (24-AWG), select a location within 800 m (2600 ft.) of the BCM50.
2. Allow 12.5 cm (5 in.) clearance for the line jack, terminal jack, and power supply connector.
3. Screw two 4-mm (#8) screws into the wall 130 mm (5.25 in.) apart. Leave 6 mm (0.25 in.) of the two screws showing.
4. Align the slots at the back of the ATA2 unit over the screws. Push the unit against the wall. The line jack, terminal jack, and power supply connector must be at the top of the ATA2. See the figure ATA2 back view on page 122.
**Figure 57** ATA2 back view

![ATA2 back view diagram]

**Test insertion loss measurement**

The maximum loss for ATA2 to Central Office (CO) configuration must not exceed 10 dB. See the figure *Insertion loss from the CO to the analog telephone* on page 122.

**Figure 58** Insertion loss from the CO to the analog telephone

![Insertion loss from the CO to the analog telephone diagram]

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longitudinal balance to ground</td>
<td>50 dB</td>
</tr>
<tr>
<td></td>
<td>60 to 4000 Hz</td>
</tr>
<tr>
<td></td>
<td>With IEEE 455–1976 test</td>
</tr>
<tr>
<td>Overload level</td>
<td>3 dB</td>
</tr>
</tbody>
</table>

Measure the total insertion loss between the CO and analog device by using standard dial-up test lines with a transmission test set (for example, Hewlett-Packard 4935A Transmission Test Set).
To measure the insertion loss from the CO to the analog device

1. Establish a connection to the 1 mW, 1 kHz, CO service line with an analog telephone attached to the ATA2.

2. Ensure that the analog port terminates correctly in 600 ohms:
   - Replace the analog telephone with the test set.
   - Use RECEIVE/600 OHM/HOLD mode on the test set.

3. Ensure that the test set connects in parallel to the service line before removing the analog telephone or the line drops.

4. Remove the single-line telephone.

5. Measure the 1 kHz tone at the far end of the analog port, where the analog loop ends and where the analog device connects.

   **Note:** The tone must be greater than –10 dB (for example: –9 dB is acceptable).

To measure the insertion loss from the analog device to the CO

1. Establish a connection to a silent termination on the CO service line with an analog telephone attached to the ATA2.

2. Make sure the analog port terminates correctly in 600 ohms by:
   - Replace the analog telephone with the test set.
   - Use TRANSMIT/600 OHM/HOLD mode on the test set.

3. Make sure the test set connects in parallel to the service line before removing the analog telephone or the line drops.

4. Remove the analog telephone.

5. Introduce a 1 kHz tone into the analog line at –10 dBm, and measure the level at the CO exchange.

   **Note:** The difference in levels is the transmit loss and must be less than 10 dB (for example, 9 dB is acceptable).

Configuring the ATA2

Configure the ATA2 using Element Manager or Telset Administration. For detailed configuration information, see the *Device Configuration Guide*. 