Communication Components, Inc. (CCI) PiMP Pro Tower Series is the first truly portable family of Passive Intermod (PIM) Analyzers. It has real world 40 W × 2 output power capability and can run on battery power for over three hours. The Tower Series demonstrates the perfect synergy of CCI’s world class in-house engineering design expertise for both filters and amplifiers. Each light weight compact unit is protected by a reinforced backpack case which can easily strap to a climber’s back for top-of-the-tower performance testing. The unit can be safely secured to most any tower structure with its integrated industrial grade clips. The Tower Series features a superior quality bright TFT capacitive 8 inch screen that provides a convenient friendly user interface.

CCI’s simple GUI combined with its powerful CPU make for fast measurement acquisition and site data storage. The portable construction, designed with durable ruggedness and reliability first and foremost, PiMP Pro Tower Series will prove to be a good investment for years to come.

The PiMP Pro Tower Series excellent measurement sensitivity (-135 dBm) as well as its ability to set transmit tone levels down to 24 dBm (250 mW) × 2 makes it the perfect resource for convention cell sites as well as in-building Distributed Antenna System (DAS) requirements.

Features:
- Single port measurement of Return Loss, PiMPPoint and Distance to Fault without additional hardware
- Easy to operate with look and feel of a smart phone
- Comfortable “Backpack” style carrying case
- Large bright capacitive 8 inch screen
- GPS antenna for site location stamping on test reports
- Real world 40 W × 2 PIM testing capability
- Unique DAS test capability using unit’s RF transmit functions
- Wi-Fi control using smart phone or tablet computer
- Fast battery recharge when connected to AC power
- Auto calibration feature
Measurement Features

Measurement

- **Measurement Method**
  - One Port, Reverse PIM
  - Real Time PIM
  - PIM vs Time
  - PIM Location (PIMPoint)
  - RX Interference
  - Frequency Sweep

- **PIM vs Time**
- **3rd & 5th PIM**
- **Distance in Feet or Meters with VP Settings**
- **Receive Only Mode - Noise Floor Measurement**
- **Frequency Response**

Main Screen

Main boot-up screen shows all measurement features in graphic icon format. Selecting the appropriate icon opens the associated measurement screen. This screen also provides access to the complete system configuration, report management and access to an abbreviated user manual.

PIM & Return Loss

PiMPro’s main measurement screen provides instantaneous PIM measurement in either dBC or dBm. The large display flashes to annunciate the presence of RF power at the output connector. Pass/Marginal/Fail Limits, Output Power, Frequency and IM settings originate from this screen. PiMPro’s unique Return Loss diagnostic feature at high transmit (TX) power, quickly points out open cables.

PIM vs Time Measurement

The PIM vs Time dynamic measurement mode features a graphical representation of PIM as a function of time. Time scale can be set from 10 seconds to 4 minutes. Return Loss feature is also available on this screen.

Frequency Sweep

PiMPro displays a swept receive (RX) PIM range by sweeping the TX carriers from end to end within the set frequency band. PIM frequency response is displayed, exposing the worst case PIM level at the contributing frequencies. Users can immediately transfer the graph to the PIM vs Time feature and run a new test to isolate the causes of the specific PIM.
DAS Measurement

TX Function: Generates in the radio’s DL frequency a low power single tone anywhere within in the DAS network (usually from the head-end) to evaluate RF connectivity and path losses. With three hours of TX time a technician can roam a DAS installation with a spectrum analyzer and detect systemic RF anomalies.

RX Function: Used as a receiver tool to evaluate ideal areas within a given location to position DAS antennas. Using a simple Yagi or planar antenna for external interference evaluation, a DAS antenna can be optimally positioned to locations where external interference is lowest.

Simultaneous DTF and PiMPoint Measurements

After a simple calibration procedure, the unit allows simultaneous measurements (superimposed on the same screen) of Distance to Fault and PiMPoint (PIM vs. Distance). All the measurements are done from a single port, no need to disconnect to a separate measurement port.

Report Generator

Report data for all measurement modes can be stored in either HTML or PDF file format. Users can concatenate a limitless series of measurements with different sectors, feeders, color codes as one single PDF file. Reports can be saved in PiMPro’s internal memory or to external USB memory from the unit’s front panel.

Battery accessibility takes seconds to swap.
## PiMPro Tower Series

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Transmit (TX) Frequency MHz</th>
<th>Receive (RX) Frequency MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>700</td>
<td>732–766</td>
<td>698–722 (L)</td>
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<tr>
<td></td>
<td></td>
<td>779.5–804.5 (U)</td>
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<tr>
<td>700A</td>
<td>758–803</td>
<td>703–748</td>
</tr>
<tr>
<td>800</td>
<td>791–821</td>
<td>832–862</td>
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<tr>
<td>850</td>
<td>869–894</td>
<td>824–849</td>
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<tr>
<td>900</td>
<td>925–960</td>
<td>876–915</td>
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<tr>
<td>Dual Band 1821</td>
<td>1805–1880</td>
<td>1710–1785</td>
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<td>1920–1980</td>
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<tr>
<td>1900</td>
<td>1930–1990</td>
<td>1850–1910</td>
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<tr>
<td>Dual Band 1921</td>
<td>1930–1990</td>
<td>2110–2155</td>
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<tr>
<td></td>
<td></td>
<td>1710–1755</td>
</tr>
<tr>
<td>2600</td>
<td>2620–2690</td>
<td>2500–2570</td>
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</tbody>
</table>

### Specifications

**Transmitter**
- Frequency Accuracy: < 5 ppm
- Power Accuracy: 0.3 dB
- Frequency Step Size: 200 KHz
- Power Resolution: 0.1 dB
- Adjustable Power Range: 24 to 46 dBm × 2 (250 mW to 40 W × 2)

**Receiver**
- Residual Intermod Level: -122 dBm (Typical -125 dBm)
- Measurement Sensitivity: -135 dBm
- Noise Floor: -136 dBm
- Reverse Power Protection: 13 dBm (20 mW) continuous

**Measurement Mode**
- Measurement Method: One Port, Reverse PIM
- Real Time PIM: 3rd & 5th PIM
- PIM vs Time: 3rd & 5th PIM
- PIM Location (PIMPoint): Distance in Feet or Meters with VP Settings
- RX Interference: Receive Only Mode - Noise Floor Measurement
- Frequency Sweep: Frequency Response

**System**
- Battery Operation: >3 hours (Full Charge)
- Power: AC & DC (AC: 90-256 V, 50-60 Hz)
- Alarms: Audio & Visual
- Display Size & Type: 8.0” [203.2 mm] Capacitive TFT (Industrial Grade)
- Data Ports: 3–USB 2.0, 1–Ethernet LAN Port
- Remote Control: WiFi Enabled (802.11)

**Electrical**
- Battery Power: 28 VDC
- Battery Capacity: 5.8 AH
- Battery Type: Li-Polymer Removable Battery Pack
- Max Power Consumption: <340 W

**Mechanical**
- Weight: 18.0 lbs [8.5 kg] to 27.0 lbs [12.5 kg] depending on model
- RF Output Connector: 7-16 DIN Female
- Dimensions (W x H x D): 14” x 9” x 4.5” [350 x 230 x 114 mm]
- Operating Temperature: -10–45°C, 14–117°F, 95% RH
- Storage Temperature: -30–60°C, -27–140°F, 85% RH

**Accessories**
- Accessories Included: DC Adapter, Operation Manual
- Available Accessories: Operational accessories available individually or in convenient Universal Kit configurations.
## Order Information

### PiMPro Tower Series Portable Analyzers

<table>
<thead>
<tr>
<th>Model</th>
<th>Bands 1</th>
<th>Bands 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>PiMPro Tower 700</td>
<td>LTE 700L</td>
<td>LTE 700U</td>
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<tr>
<td>PiMPro Tower 700A</td>
<td>LTE 700A</td>
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<tr>
<td>PiMPro Tower 800</td>
<td>LTE 800</td>
<td></td>
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<tr>
<td>PiMPro Tower 850</td>
<td>Cellular 850</td>
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<tr>
<td>PiMPro Tower 900</td>
<td>GSM 900</td>
<td></td>
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<tr>
<td>PiMPro Tower 1821</td>
<td>GSM 1800</td>
<td>AWS 2100</td>
</tr>
<tr>
<td>PiMPro Tower 1900</td>
<td>PCS 1900</td>
<td></td>
</tr>
<tr>
<td>PiMPro Tower 1921</td>
<td>PCS 1900</td>
<td>AWS 2100</td>
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<tr>
<td>PiMPro Tower 2600</td>
<td>LTE 2600</td>
<td></td>
</tr>
</tbody>
</table>

### PiMPro Tower Series Analyzer System Package

Includes one each PiMPro Tower unit (any model), Accessory Kit, Transport Case

- PiMPro Tower 700 SP
- PiMPro Tower 700A SP
- PiMPro Tower 800 SP
- PiMPro Tower 850 SP
- PiMPro Tower 900 SP
- PiMPro Tower 1821 SP
- PiMPro Tower 1900 SP
- PiMPro Tower 1921 SP
- PiMPro Tower 2600 SP

### PiMPro Tower Series Options

- **Option 11** GPS Capability
- **Option 21** DTF Measurement, includes open/short standard
- **Option 31** Wi-Fi Control via Tablet or Smartphone App

### PiMPro Tower Series Accessories

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PiMPro Tower Transport Case</td>
<td>PPTTC</td>
</tr>
<tr>
<td>PiMPro Tower Accessory Kit</td>
<td>PPTAK</td>
</tr>
<tr>
<td>Low PIM Jumper Cable DIN M</td>
<td>PP-AK-CBL-DMDM</td>
</tr>
<tr>
<td>Low PIM Jumper Cable DIN M to DIN F</td>
<td>PP-AK-CBL-DMDF</td>
</tr>
<tr>
<td>PIM Standard -80 dBm</td>
<td>PP-AK-PSTAN-80</td>
</tr>
<tr>
<td>Low PIM Load</td>
<td>PPTAK-LOAD</td>
</tr>
<tr>
<td>7-16 DIN Male to D Male Adaptor</td>
<td>PP-AK-DMDM</td>
</tr>
<tr>
<td>7-16 DIN Female to D Female Adaptor</td>
<td>PP-AK-DDFD</td>
</tr>
<tr>
<td>7-16 DIN Male to N Female Adaptor</td>
<td>PP-AK-DMNF</td>
</tr>
<tr>
<td>7-16 DIN Male to N Male Adaptor</td>
<td>PP-AK-DWMN</td>
</tr>
<tr>
<td>Torque Wrench</td>
<td>PP-AK-TORW</td>
</tr>
<tr>
<td>Adjustable Wrench</td>
<td>PP-AK-ADJW</td>
</tr>
<tr>
<td>Small 32 mm wrench for DIN 7-16</td>
<td>PP-AK-FIXWV</td>
</tr>
<tr>
<td>Rechargeable Battery</td>
<td>PPTAK-BATT</td>
</tr>
<tr>
<td>Battery Charger</td>
<td>PPTAK-CHRGR</td>
</tr>
<tr>
<td>PiMPro Tower Accessory Kit Case</td>
<td>PPTAK-CASE</td>
</tr>
</tbody>
</table>

*All accessory Kit Components and cables have low PIM connectors, with PIM level < -122 dBm

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**Disclaimer:** PiMPro Passive Intermodulation Analyzers should be operated only by a trained technician. Improper use can result in damage to the product or the device being tested. It is the responsibility of the user to operate product in accordance with manufacturer's specifications in a safe and appropriate manner. Misuse of a testing device may result in inadvertent transmissions, which is a violation of FCC regulations. CCI disclaims all liability associated from misuse or negligence of its testing products. CCI reserves the right to make specification changes and/or upgrades as part of our ongoing commitment to product development and enhancements.
Communication Components Inc. (CCI) is one of the fastest growing providers of basestation enhancement products and services. Our innovative solutions are designed and installed to allow service providers to get the most out of their basestation investments. With 25 years experience as a wireless technology service provider, and our worldwide network of manufacturing and service centers, CCI is poised to deliver the expertise, technology, and reliability to meet all your basestation enhancement needs. Contact an area representative today.

PiMPro is also available from these fine independent industry partners.