Setting the Standard for Battery Backup Solutions
ARRIS launched the new Lithium-Ion (Li-Ion) battery technology into DOCSIS® compliant Touchstone® Embedded Multimedia Terminal Adapters (E-MTAs) in 2003. ARRIS battery back-up solutions optimize E-MTA performance for lifeline telephony, reduce risk through multiple protection mechanisms, and maximize battery life with proprietary low power designs. ARRIS superior battery technology ensures that all Touchstone battery-backed E-MTA products provide unsurpassed quality, safety, and value within the industry.

Lithium-Ion Technology Leadership
ARRIS battery packs come in 2, 4, 6, and 8-cell configurations. ARRIS maintains a comprehensive cell and pack qualification process, which includes safety qualification testing, electrical performance analysis, and rigorous manufacturing standards. With ARRIS batteries, Cable Operators can count on hours of dependable voice service during a local power outage.

Environmentally Friendly ARRIS “Green”
ARRIS is pleased to provide products that meet the Restriction of Hazardous Substances (RoHS) directive. Beyond the present directive to remove lead and other heavy metals, ARRIS has increased our focus by removing other environmentally impacting materials from the packaging, cables, and other accessories. Please contact your sales representative for more information.
# Touchstone® Li-ion Battery Packs

## Applications

### Typical Idle Hold-Up Hours (All lines On-Hook, Programmed Charge)

<table>
<thead>
<tr>
<th>Model #</th>
<th>Part #</th>
<th>AH</th>
<th>TM502</th>
<th>TM504</th>
<th>TM552</th>
<th>TM502v1</th>
<th>TM602v2</th>
<th>TM604</th>
<th>TM608</th>
<th>TM722</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPB022S</td>
<td>718003</td>
<td>2.2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3:45</td>
<td>5</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BPB044H</td>
<td>722841</td>
<td>4.4</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6:30</td>
<td>8</td>
<td>8</td>
<td>6</td>
<td>6</td>
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<tr>
<td>BPB088S</td>
<td>721192</td>
<td>8.8</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Notes:
1. 718003 will function in TM722 but will only charge at the standard rate.
2. 722841 is high charge 4-cell pack intended for TM722; charges standard rate in other models.
3. On loss of AC power, E-MTA shuts down data services (configurable; default 15 minutes).
4. "-" indicates battery not applicable or supported on this E-MTA model.

### Typical Talk Hours (1-Line Off-Hook, 23mA Current)

<table>
<thead>
<tr>
<th>Model #</th>
<th>Part #</th>
<th>AH</th>
<th>TM502</th>
<th>TM504</th>
<th>TM552</th>
<th>TM502v1</th>
<th>TM602v2</th>
<th>TM604</th>
<th>TM608</th>
<th>TM722</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPB022S</td>
<td>718003</td>
<td>2.2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3:45</td>
<td>5</td>
<td>5</td>
<td>-</td>
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</tr>
<tr>
<td>BPB044H</td>
<td>722841</td>
<td>4.4</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6:30</td>
<td>8</td>
<td>8</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>BPB088S</td>
<td>721192</td>
<td>8.8</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Notes:
1. See Notes 1 and 2 above
2. TM502, TM552 2-line talk time (hours): BPB022S (2:30), BPB044S (5)
3. TM602v1 2-line talk time (hours): BPB022S (3), BPB044S (6)
4. TM602v2 2-line talk time (hours): BPB022S (4), BPB044S (8)
5. TM722 2-line talk time (hours): BPB022S (2:30), BPB044H (5), BD0696H (7:30), BD0888H (10)

### Multi-line Typical Talk Hours (#-Lines Off-Hook, 23mA Current)

<table>
<thead>
<tr>
<th>Combination</th>
<th>Lines:</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM504 talk time with BPB044S</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>TM504 talk time with BPB088S</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>TM504 talk time with BPB044S</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>TM504 talk time with BPB088S</td>
<td>14</td>
<td>12</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>TM504 talk time with BPB044S</td>
<td>5</td>
<td>4:30</td>
<td>4</td>
<td>3:30</td>
<td>3:15</td>
<td>3</td>
<td>2:45</td>
<td></td>
</tr>
<tr>
<td>TM504 talk time with BPB088S</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6:30</td>
<td>6</td>
<td>5:30</td>
<td></td>
</tr>
</tbody>
</table>
Touchstone® Li-ion Battery Packs

Specifications

Physical
- Operating Temperature °F (°C): 32 to 122 (0 to 50)
- Operating Relative Humidity (Min.-Max.): 5-95% (Non condensing)
- Storage Temperature °F (°C): -4 to 140 (-20 to 60)
  Note: Storage above 77°F (25°C) will reduce life of the battery and is not recommended.
- Operating and Storage Altitude ft (m): 200 to 12,000 (61 to 3,658)
- Battery Shelf Life (without recharge, 25°C): 16 months
- Battery Life Expectancy (with 2 discharge cycles per year, 25°C): 6 to 10 years
  BPB024S, BPB044H: Light Gray
- Dimensions (H x W x D) in (cm):
  - BPB022S, BPB024S: 1.2 x 3.1 x 1.8 (3.1 x 7.9 x 4.7)
  - BPB044S, BPB044H: 1.2 x 5.7 x 1.8 (3.1 x 14.5 x 4.7)
  - BPD066H, BPD088H: 2.0 x 6.4 x 2.1 (5.1 x 16.2 x 5.3)
  - BPB088S: 2.0 x 6.9 x 2.0 (5.1 x 17.6 x 5.1)
- Weight lbs (g):
  - BPB022S, BPB024S: 0.25 (114)
  - BPB044S, BPB044H: 0.50 (228)
  - BPB066H: 0.80 (351)
  - BPB088S, BPC088S, BPD088H: 1.00 (439)
- Connector Type: 5-Pin, 2.0 mm
- Output Voltage Range: +6.0 to +8.4 V DC
- Output Current (Maximum): 1.6 A DC
- Over Voltage Protection (No Damage): +18.0 V
- Cell Type: Lithium-Ion 18650 battery
- Number of Cells:
  - BPB022S, BPB024S: 2
  - BPB044S, BPB044H: 4
  - BPD066H: 6
  - BPB088S, BPC088S, BPD088H: 8
- Pack Capacity (Amp Hour):
  - BPB022S: 2.2
  - BPB024S: 2.4
  - BPB044S, BPB044H: 4.4
  - BPD066H: 6.6
  - BPB088S, BPC088S, BPD088H: 8.8
- Charge Current (Maximum, mAmps):
  - BPB022S, BPB024S, BPB044S, BPB088S, BPC088S: 115
  - BPB044H, BPD066H, BPD088H: 500

Electrical

Standards

Hazardous Materials Regulations and Procedures CFR Title 49, Section 173, Subsection 185
- FCC Part 15, Subpart B
- UL 60950
- EN 60950
- EC 60950
- ISA AS/NZS 60950
- RoHS Compliant 2002/95/EC

Ordering Information

Model/Number Part Number Description
BPB022S 718003 Touchstone Li-Ion Battery Pack, 2-Cell, 8.4V, 2200 mAH, Standard Charge, Order in Multiples of 10
BPB024S 721944 Touchstone Li-Ion Battery Pack, 2-Cell, 8.4V, 2400 mAH, Standard Charge, Order in Multiples of 10
BPB044S 718005 Touchstone Li-Ion Battery Pack, 4-Cell, 8.4V, 4400 mAH, Standard Charge, Order in Multiples of 10
BPB044H 722841 Touchstone Li-Ion Battery Pack, 4-Cell, 8.4V, 4400 mAH, High Charge, Order in Multiples of 10
BPD066H 781710 Touchstone Li-Ion Battery Pack, 6-Cell, 8.4V, 6600 mAH, High Charge, Order in Multiples of 10
BPB088S 721192 Touchstone Li-Ion Battery Pack, 8-Cell, 8.4V, 8800 mAH, Standard Charge, Order in Multiples of 10
BPB088S 722842 Touchstone Li-Ion Battery Pack, 8-Cell, 8.4V, 8800 mAH, High Charge, Order in Multiples of 10
BPD088H 781711 Touchstone Li-Ion Battery Pack, 8-Cell, 8.4V, 8800 mAH, High Charge, Order in Multiples of 10

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