GROUND EQUIPMENT
RAM (REMOTE ACQUISITION MODULE)

FEATURES
• 24-bit Delta-Sigma A/D Conversion
• 4 channels per RAM
• Low distortion test oscillator
• Supports SMT compatible phone testing
• Automatic error-free data transmission
• In-field programmable firmware
• RAMs are powered by the FTUs or PSUs

SPECIFICATIONS
Sample Rates: 4 ms, 2 ms, 1 ms, 1/2 ms, 1/4 ms
Gains: 0 dB, 12 dB, 24 dB
Maximum Input (RMS): 1.768 V @ 0 dB gain
0.442 V @ 12 dB gain
0.110 V @ 24 dB gain
Equivalent Input Noise* (RMS): 0.790 uV @ 0 dB gain
0.220 uV @ 12 dB gain
0.098 uV @ 24 dB gain
Instantaneous Dynamic Range*: 127 dB @ 0 dB gain
126 dB @ 12 dB gain
121 dB @ 24 dB gain
System Dynamic Range*: 145 dB
Input Impedance: 20 KΩ [differential mode]
Total Harmonic Distortion*: <0.0001%
Channel Matching: Better than 1%
Common Mode Rejection*: >110 dB
Crossfeed Isolation*: >130 dB
Phase Accuracy: +/- 10 us
Frequency Response: 0 Hz to 1652 Hz
Anti-alias Filters: -3 dB @ .826 fN [Nyquist]

Rejection: 130 dB @ fN (Nyquist)
Distance between RAMs: Up to 440 m (1444 ft) maximum
Operating Voltage: PDL input of 24 V to 65 V
RAM Power Consumption*: 0.586 W max in full test mode
0.534 W typical in acquisition mode

PHYSICAL
Size: 14.3 cm (L) x 8.4 cm (W) x 6.2 cm (H)
0.56” (L) x 3.3” (W) x 2.4” (H)
Weight: 0.39 kg (0.85 lb)
Operating Temperature: -40 °C to +70 °C
Storage Temperature: -45 °C to +85 °C
Water Depth: 5 m fully operational (fresh water)

*Typical specifications @ 2 ms sampling @ 25 °C
G3i ® NXT GROUND EQUIPMENT

PSU (POWER SUPPLY UNIT)

FEATURES
- Incorporates 4 x G3i NXT analog channels
- Hot-swappable dual battery ports
- Automatic error-free data transmission
- In-field programmable firmware
- Provides Power Down Line (PDL) to the RAMs

SPECIFICATIONS
Operating Voltage: 10.5 V to 18 V (12 V nominal)
PDL Support: Up to 25 RAMs @ 13.75 m takeout interval
Power Consumption*: Standby = 0.72 W
Active = 1.02 W + PDL Power
For 25 RAMs
Active = 1.02 W + 18.9 W
Distance to next RAM: Up to 440 m (1444 ft) maximum

PHYSICAL
Size: 15.3 cm (L) x 17.1 cm (W) x 8.2 cm (H)
(6.0” (L) x 6.7” (W) x 3.2” (H))
Weight: 1.4 kg (3.1 lb)
Operating Temperature: -40 °C to +70 °C
Storage Temperature: -45 °C to +85 °C
Water Depth: 5 m fully operational (fresh water)

*Typical specifications @ 2 ms sampling @ 25 °C. Power consumption values include all components.
G3i® NXT GROUND EQUIPMENT

FTU (FIBER TAP UNIT)

FEATURES
- Provides connection between receiver line(s) and cross lines
- Incorporates 4 x G3i NXT analog channels
- Hot-swappable dual battery ports
- Automatic error-free data transmission
- In-field programmable firmware
- Provides Power Down Line [PDL] to the RAMs

CAPABILITIES
Receiver Line Capacity: 3,000 channels @ 2 ms, uncompressed 25 m interval (one side of FTU)
Base Line Capacity: 75,000 channel @ 2 ms, uncompressed

SPECIFICATIONS
Operating Voltage: 10.5 V to 18 V (12 V nominal)
PDL Support: Up to 50 RAMs @ 13.75 m takeout interval (25 per side)
Power Consumption*: Standby = 2.0 W
Active = 3.78 W + PDL Power
For 50 RAMs
Active = 3.78 W + 37.4 W
Distance to next RAM: Up to 440 m (1444 ft) maximum
Distance between FTUs: 7 km single cable maximum
2 km full baseline capacity
Standard cables are 250 m or 500 m

PHYSICAL
Size: 22.6 cm (L) x 21.9 cm (W) x 8.2 cm (H)
(8.9” (L) x 8.6” (W) x 3.2” (H))
Weight: 2.27 kg [5.0 lb]
Operating Temperature: -40 °C to +70 °C
Storage Temperature: -45 °C to +85 °C
Water Depth: 5 m fully operational [fresh water]

*Typical specifications @ 2 ms sampling @ 25 °C.
**LAND ANALOG CHANNEL CAPACITIES**

<table>
<thead>
<tr>
<th>Takeout Interval</th>
<th>Takeouts per Cable</th>
<th>Channels per Takeout</th>
<th>Cable Length (M)</th>
<th>Max RAMs powered per PSU</th>
<th>Max Channels powered PSU</th>
<th>Max RAMs powered per FTU</th>
<th>Max Channels powered per FTU</th>
<th>Tx Rate** (Mbps)</th>
<th>Sample Rate (ms)</th>
<th>Channel Capacity (per side of FTU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.75</td>
<td>4</td>
<td>1</td>
<td>55</td>
<td>25</td>
<td>104</td>
<td>50</td>
<td>204</td>
<td>18</td>
<td>2</td>
<td>3000</td>
</tr>
<tr>
<td>27.5</td>
<td>4</td>
<td>1</td>
<td>110</td>
<td>19</td>
<td>80</td>
<td>38</td>
<td>156</td>
<td>18</td>
<td>2</td>
<td>3000</td>
</tr>
<tr>
<td>55</td>
<td>4</td>
<td>1</td>
<td>220</td>
<td>14</td>
<td>60</td>
<td>28</td>
<td>116</td>
<td>10</td>
<td>2</td>
<td>1800</td>
</tr>
<tr>
<td>75</td>
<td>4</td>
<td>1</td>
<td>300</td>
<td>12</td>
<td>52</td>
<td>24</td>
<td>100</td>
<td>6</td>
<td>2</td>
<td>1000</td>
</tr>
</tbody>
</table>

**TRANSMISSION RATE IS PER DATA PAIR.**
## G3i ® NXT GROUND EQUIPMENT

### RECEIVER LINE CABLE

#### FEATURES
- Designed and manufactured to the highest specifications
- Offers the highest strength-to-weight ratio in the industry
- Multiple takeout options are available
- Multiple cable lengths and takeout intervals available
- Standard and water blocked cables available
- All cables are manufactured with 12-pin “Quick Lock Connector” cable heads

#### PHYSICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Standard Receiver Line Cables with 55 m Takeout</th>
<th>Lite Receiver Line Cables with 55 m Takeout</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length:</strong> 220 m cable with 4 inline screw on, 5515 female takeouts at 55 m</td>
<td><strong>Length:</strong> 220 m cable with 4 inline screw on, 5515 female takeouts at 55 m</td>
</tr>
<tr>
<td><strong>Weight:</strong> 16.0 kg [35.3 lb], standard 19.1 kg [42.0 lb], water blocked</td>
<td><strong>Weight:</strong> 12.5 kg [27.6 lb], standard 14.3 kg [31.5 lb], water blocked</td>
</tr>
<tr>
<td><strong>OD:</strong> 8.3 mm [0.325&quot;], standard 9.3 mm [0.365&quot;], water blocked</td>
<td><strong>OD:</strong> 7.1 mm [0.28&quot;], standard 8.1 mm [0.32&quot;], water blocked</td>
</tr>
<tr>
<td><strong>Tensile:</strong> 273 kg [600 lb], typical</td>
<td><strong>Tensile:</strong> 147 kg [324 lb], typical</td>
</tr>
<tr>
<td><strong>Water Blocked:</strong> Cable heads and takeouts (standard cable) Cable, cable heads and takeouts (water blocked cable)</td>
<td><strong>Water Blocked:</strong> Cable heads and takeouts (standard cable) Cable, cable heads and takeouts (water blocked cable)</td>
</tr>
<tr>
<td><strong>Operating Temperature:</strong> -40 °C to +70 °C</td>
<td><strong>Operating Temperature:</strong> -40 °C to +70 °C</td>
</tr>
<tr>
<td><strong>Water Depth:</strong> Fully operational at 5 m [16.4 ft] (dependent on takeouts)</td>
<td><strong>Water Depth:</strong> Fully operational at 5 m [16.4 ft] (dependent on takeouts)</td>
</tr>
</tbody>
</table>

![Standard and water blocked cable](image)

5515 (KCK compatible) - Male

5515 (KCK compatible) - Female

KCM – Male

KCM – Female
**G3i® NXT GROUND EQUIPMENT**

**FIBER BASELINE CABLE**

**FEATURES**
- Designed and manufactured to the highest specifications
- Hermaphroditic fiber optic connector design
- Fiber optic cables provide greater bandwidth than copper cables
- Connects FTUs and FRUs together and to the Central Recording System

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>500 m</td>
</tr>
<tr>
<td>Weight</td>
<td>15.0 kg (33.0 lb)</td>
</tr>
<tr>
<td>Tensile</td>
<td>61.18 kg (134.9 lb), typical</td>
</tr>
<tr>
<td>Jacket</td>
<td>Single</td>
</tr>
<tr>
<td>OD</td>
<td>5.8 mm (.23&quot;)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40 °C to +70 °C</td>
</tr>
<tr>
<td>Water Depth</td>
<td>5 m fully operational</td>
</tr>
</tbody>
</table>

**FIBER BASELINE CABLE TESTER**

**FEATURES**
- Verifies 2 way communication through fiber cables
- Can be used to power up baseline and activate positive indicator lights on baseline and receiver line ground electronics

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (Fiber Baseline Cable Tester)</td>
<td>21.86 cm (L) x 8.56 cm (W) x 6.01 cm (H)</td>
</tr>
<tr>
<td></td>
<td>(8.61 in. (L) x 3.37 in. (W) x 2.37 in. (H))</td>
</tr>
<tr>
<td>Weight</td>
<td>2 kg (4.41 lb)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40 °C to +70 °C</td>
</tr>
<tr>
<td>Size (Loopback Plug)</td>
<td>17.5 cm (L) x 10.9 cm (Ø)</td>
</tr>
<tr>
<td></td>
<td>(6.9 in. (L) x 4.3 in. (Ø))</td>
</tr>
</tbody>
</table>
G3i® NXT ADDITIONAL EQUIPMENT

REMOTE ENCODER

FEATURES

- Remote Encoder option allows crews to perform wireline shooting in areas with poor radio communications between G3i CRS and Shot Pro II or Shot Pro HD decoders
- Can be connected to G3i HD’s PSU/DPSU or FTU/DFTU
- Supports radio communications between Shot Pro II or HD Remote Encoder(s) and the Shot Pro II or HD decoders, as terrain allows
- Multiple Remote Encoders can be used on the spread
- Provides communication and fire closure commands from the recording truck
- Rugged design for durability in all climates and environments
- Standard Shot Pro II**** or Shot Pro HD**** decoder can be easily programmed as a remote encoder as needed
- Encrypted fire commands to prevent firing non-selected decoder units
- Digital-coded transmission provides error detection and correction for more reliable communications
- Precise synchronization and detonation detection with QC data transmission

****Refer to the Shot Pro II and Shot Pro HD datasheets for full specifications.
G3i ® NXT ADDITIONAL EQUIPMENT

SOLAR PANEL

FEATURES
- Solar battery charger made from sunlight resistant polyester film and fiberglass laminate
- Light-weight, high durability and impact resistant design for optimal portability
- Quick-connect, 12 volt connection to G3i HD compatible battery
- Water resistant and rust proof

SPECIFICATIONS
Power: 20 Watts [40 Watts available]
Peak Voltage: 15 V

PHYSICAL
Size: 622 mm (W) x 508 mm (H)
(24.5” (W) x 20” (H))
Weight: 2.09 kg [4.6 lb]

SERVICE AND REPAIR KITS

FEATURES
The Repair and Test Station (RTS) provides a PC-based test station capable of performing all system tests on G3i HD ground equipment, as well as tools, test fixtures and equipment needed to perform periodic maintenance and repairs.
**G3i® NXT ADDITIONAL EQUIPMENT**

**LASER LINK**

**FEATURES**
- Provides wireless link for telemetry signals
- Supports baseline up to 65,000 channels @ 2 ms
- Supports Rline with support from Fiber Tap Units (FTU’S)
- Up to 2 km line of sight (LoS) range
- Link connectivity can be established in minimal time

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Consumption</td>
<td>25 W* (typical)</td>
</tr>
<tr>
<td>Maximum link distance</td>
<td>&lt; 2 km LoS</td>
</tr>
<tr>
<td>Maximum operational height</td>
<td>1.52 m (60&quot;)</td>
</tr>
</tbody>
</table>

**PHYSICAL**

Typical dimensions when unit is operational:
- Size**: 1.23 m x 1.23 m x 1.23 m
  (48” x 48” x 48”)
- Weight**: 42.6 kg (94 lbs)

Ground electronics with transport case (Est.)
- Size**: 0.35 m x 0.81 m x 0.51 m
  (12” x 32” x 20”)
- Weight**: 30 kg (66 lbs)
- Operating Temperature: -30 °C to +60 °C
- Storage Temperature: -40°C to +70 °C

*Typical specifications @ 25 °C

**Dimensions, weight and power consumption are per each of 2 Laser Link units that comprise a "link"