

G3i[®] NXT

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) (5.6" (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 .

G3i® NXT GROUND EQUIPMENT

LAND ANALOG CHANNEL CAPACITIES

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

**TRANSMISSION RATE IS PER DATA PAIR.

G3i® NXT GROUND EQUIPMENT

RECEIVER LINE CABLE

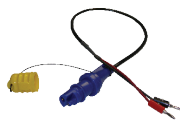
FEATURES

- 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

Standard Receiver Line Cables with 55 m Takeout

Length:	220 m cable with 4 inline screw on , 5515 female takeouts at 55 m
Weight:	16.0 kg (35.3 lb), standard 19.1 kg (42.0 lb), water blocked
OD:	8.3 mm (0.325”), standard 9.3 mm (0.365”), water blocked
Tensile:	273 kg (600 lb), typical
Water Blocked:	Cable heads and takeouts (standard cable) Cable, cable heads and takeouts (water blocked cable)
Operating Temperature:	-40 °C to +70 °C
Water Depth:	Fully operational at 5 m (16.4 ft) (dependent on takeouts)



5515 (KCK compatible) - Male



KCM – Male



Standard and water blocked cable

PHYSICAL SPECIFICATIONS

Lite Receiver Line Cables with 55 m Takeout

Length:	220 m cable with 4 inline screw on , 5515 female takeouts at 55 m
Weight:	12.5 kg (27.6 lb), standard 14.3 kg (31.5 lb), water blocked
OD:	7.1 mm (0.28”), standard 8.1 mm (0.32”), water blocked
Tensile:	147 kg (324lb), typical
Water Blocked:	Cable heads and takeouts (standard cable) Cable, cable heads and takeouts (water blocked cable)
Operating Temperature:	-40 °C to +70 °C
Water Depth:	Fully operational at 5 m (16.4 ft) (dependent on takeouts)



5515 (KCK compatible) - Female



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

Length:	500 m
Weight:	15.0 kg (33.0 lb)
Tensile:	61.18 kg (134.9 lb), typical
Jacket:	Single
OD:	5.8 mm (.23")
Operating Temperature:	-40 °C to +70 °C
Water Depth:	5 m fully operational



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

Size (Fiber Baseline Cable Tester):	21.86 cm (L) x 8.56cm (W) x 6.01cm (H) (8.61 in. (L) x 3.37 in. (W) x 2.37 in. (H))
Weight:	2 kg (4.41 lb)
Operating Temperature:	-40 °C to +70 °C
Size (Loopback Plug):	17.5 cm (L) x 10.9 cm (Ø) (6.9 in. (L) x 4.3 in. (Ø))

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 @ 2ms
- 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

Power Consumption:	25 W*(typical)
Maximum link distance:	< 2 km LoS
Maximum operational height:	1.52 m (60")



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"