

## LAN-XI Front Panels

LAN-XI data acquisition hardware is built on a modular concept, allowing frames, modules and front panels to be combined in different ways for solutions that are both scalable and versatile.

Most LAN-XI input/output modules are compatible with multiple front panels. The panels, each with a unique configuration of connectors, make it possible to use the same module for different transducers and applications.

Interchangeable front panels let you decide which cable type to use and make swapping transducers easy, meaning less hardware is needed. This results in fewer patch panels, less cable 'spaghetti', fewer cable adaptors and faster system setup.



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### Concept

Each LAN-XI module has a standard front panel and, in most cases, can be used with one or more optional front panels. Switching front panels is an easy task and creates versatility in setup configurations. Each front panel is delivered in a storage case that protects the connectors on the backside of the front panel while it is not in use.

**Fig. 1**  
Front panel UA-2111-040 (left) is removed from LAN-XI Module Type 3056-A-040 (middle) and UA-2110-040 (right) is installed in its place. Both front panels are fully compatible with the module.



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Overview

Description	Product No.	Channel(s)	Connector(s)	Use	Info
General Purpose	UA-2100	Input	BNC	General purpose	Page 3
		Output	BNC	Generator	
	UA-2111	Input	BNC	General purpose, High-speed tacho	Page 12
		Input/Output	10-pin LEMO	Low-frequency auxiliary data, DC output	
	UA-3100	Input	BNC	General purpose	Page 25
		Output	BNC	Generator	
6 Channel	UA-2103	Input/Output	37-pin D-sub	Array	Page 6
	UA-2105	Input	Slots for amplifier	Charge	Page 8
	UA-2113	Input	SMB	General purpose	Page 14
		Output	SMB	Monitor	
	UA-2119	Input	2-pin TNC	Differential Charge	Page 21
	UA-2120	Input	TNC	Charge (built-in amp.)	Page 22
UA-3111	Input	2-pin TNC	CVLD accelerometers	Page 27	
12 Channel	UA-2107	Input	SMB or Microdot	General purpose	Page 8
	UA-2109	Input	50-pin D-sub	For custom cabling	Page 10
	UA-2116	Input	Microdot	Charge (built in amp.)	Page 18
200 V Microphone	UA-2101	Input	7-pin LEMO	200 V mic, general purpose	Page 4
		Input	7-pin LEMO	200 V mic, general purpose	
	UA-2102	Output	BNC	Generator	Page 5
		Input	7-pin LEMO	200 V mic, general purpose	
	UA-2110	Input/Output	10-pin LEMO	Low-frequency auxiliary data, DC output	Page 11
		Input	7-pin LEMO	200 V mic, general purpose	
UA-3102	Output	BNC	Generator	Page 26	
	Input	7-pin LEMO	200 V mic, general purpose		
Triaxial Accelerometer	UA-2108	Input	4-pin triaxial	CCLD	Page 9
Array	UA-2112	Input	7-pin LEMO	Microphone array	Page 13
	UA-2145-D (for 11 modules)	Input	Multi-connector	Microphone array	Page 24
			SMB	Reference signal (Module 11)	
BNC	Reference signal (Module 11)				
Sound Intensity	UA-2104	Input	7-pin LEMO	200 V mic	Page 7
		Remote control	9-pin D-sub	Sound intensity probe remote control unit	
		Output	BNC	Generator	
High Frequency	UA-2117	Input	BNC	Direct/CCLD	Page 19
			7-pin LEMO	200 V mic	
			TNC	Charge	
		Output	BNC	Monitor	
			BNC	Generator	
Headphone Test	UA-2118	Input	7-pin LEMO	200 V mic	Page 20
		Headphone jack	TRS	Headphones, small loudspeakers	
Dynamic Bridge Transducers	UA-2114	Input	7-pin LEMO	Bridge transducer	Page 15
		Output	BNC	Generator	
CAN Bus Module	UA-3101	Input	SMB	CCLD, general purpose, AES3	Page 25
			8-pin LEMO	CAN interface	
Voltage Injection Calibration	UA-2115	Input	7-pin LEMO	200 V mic with Type 2669-W-004	Page 17
		Output	BNC	Generator	

Description	Product No.	Channel(s)	Connector(s)	Use	Info
Bridge Module	UA-2121	Input/Output	15-pin D-sub	Bridge transducer	<a href="#">Page 23</a>
	UA-3112	Input	BNC	General purpose	<a href="#">Page 28</a>
		Output	SMB	Monitor	
	UA-3121	Input	15-pin D-sub	Bridge transducer	<a href="#">Page 29</a>
			Microdot	Differential charge	
	UA-3122	Input	Output	SMB	Monitor
			15-pin D-sub	Bridge transducer	<a href="#">Page 30</a>
			Microdot	Charge	
		SMB	Direct/CCLD		
	Output	SMB	Monitor		

General Purpose: UA-2100

**Fig. 2**  
UA-2100 family

UA-2100 is the front panel included with LAN-XI Module Types 3050 (with 4 or 6 input channels), Type 3052-A-030 (with 3 input channels) and Type 3160-A-022 (with 2 input channels and 2 generator output channels) as default. It is available in the following channel configurations:

- UA-2100-022: 2 × input and 2 × output
- UA-2100-030: 3 × input
- UA-2100-040: 4 × input
- UA-2100-060: 6 input or 4 × input and 2 × output

#### Uses

- General sound and vibration measurements
- Direct voltage
- CCLD accelerometers, microphones and tacho probes
- Charge accelerometers (using Charge to CCLD Converter Type 2647)
- Generator output

#### Features

- BNC connectors for easy connection
- LED indicators: input, output, overload, cable break

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#### Compatibility

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-2100-022	3160-A-022
UA-2100-030	3052-A-030
UA-2100-040	3050-A-040
UA-2100-060	3050-A-060 3160-A-042*

\* UA-3100-042 is the preferred (BNC) front panel for Generator Module Type 3160-A-042



UA-2100-022 UA-2100-030 UA-2100-040 UA-2100-060

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**Fig. 3**  
UA-2101 family

UA-2101 is designed to be used in conjunction with microphones that require 200 V polarization voltage.

However, Adaptor Cable AO-0091 allows this front panel to be used with a host of other signals and transducers including direct voltage, CCLD accelerometers, CCLD microphones, CCLD tacho probes, and DC responding accelerometers.

**Uses**

- Microphones requiring 200 V external polarization
- General sound and vibration measurements
- Direct voltage
- CCLD accelerometers, microphones and tacho probes
- DC responding accelerometers

**Features**

- 3, 4 and 6 × LEMO (7-pin) connectors
- LED indicators: input, overload, cable break



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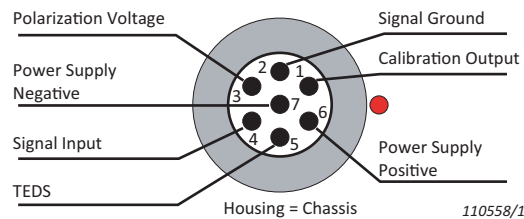
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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-2101-030	3052-A-030
UA-2101-040	3050-A-040
UA-2101-060	3050-A-060

**Fig. 4**  
7-pin LEMO connector pinout

**Related Information**



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**Fig. 5**  
UA-2102 family

**Uses**

- 200 V microphones
- General sound and vibration measurements
- Direct voltage
- Generator output
- CCLD transducers: accelerometers, microphones and tacho probes (using Adaptor Cable AO-0091)
- Charge accelerometers (using Converter Type 2647 and AO-0091)
- DC responding accelerometers (using Adaptor Cable AO-0091)
- Microphone preamplifiers

**Features**

- 2 and 4 × LEMO (7-pin) microphone connectors
- 2 × BNC output connectors
- LED indicators: input, output, overload, cable break

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**Compatibility**

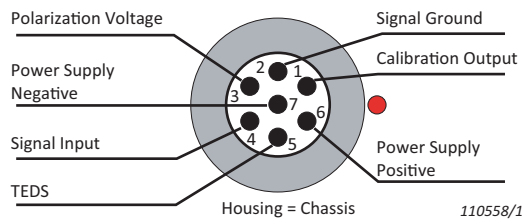
Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-2102-022	3160-A-022
UA-2102-042	3050-A-060 3160-A-042*

\* UA-3102-042 is the preferred (LEMO) front panel for Generator Module Type 3160-A-042



**Fig. 6**  
7-pin LEMO connector pinout

**Related Information**



**Fig. 7**  
UA-2103

Front Panel UA-2103 is primarily intended for backward compatibility with certain Brüel & Kjær array acoustic systems.

**Uses**

- Array acoustics
- General sound and vibration measurements with user-customized cables
- Direct voltage
- Generator output
- CCLD transducers: accelerometers, microphones and tacho probes
- Charge accelerometers (using Converter Type 2647)
- Microphone preamplifiers

**Features**

- 1 × D-sub connector (37-pin)
- LED indicators: input, output, overload, cable break

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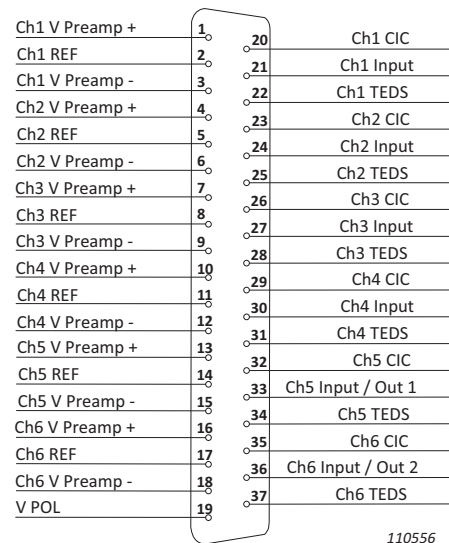
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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-2103	3050-A-060 3160-A-042

**Related Information**

**Fig. 8**  
37-pin D-sub  
connector pinout



**Acoustic Holography**

For further related information please see the 'Acoustic Holography' page on [bksv.com](http://bksv.com).

**Fig. 9**  
UA-2104

Front Panel UA-2104 is intended for use with Sound Intensity Probe Kit Type 3599.

**Uses**

- Sound intensity measurements
- Selective intensity measurements using third input for reference signal
- Building acoustics and leak detection measurements, for example, sealing in vehicles using generator output

**Features**

- 3 × LEMO (7-pin) input connectors
- 1 × D-sub connector (9-pin)
- 1 × BNC generator output connector
- LED indicators: input, output, overload, cable break

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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-2104-031	3050-A-060* 3160-A-042

\* Only compatible with serial numbers above 3050-101213

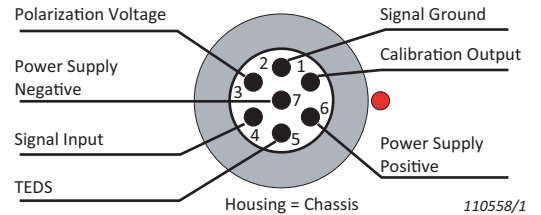
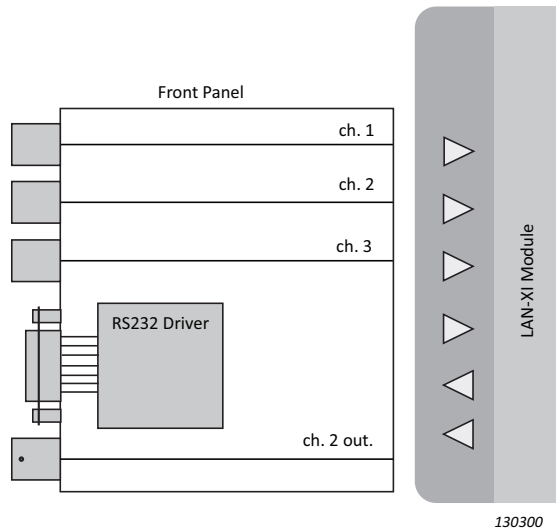


**Fig. 10**

**Left:**  
Block diagram of  
UA-2104-031

**Right:**  
Pinout for the LEMO  
(7-pin) connector

**Related Information**



**Fig. 11**

Sound Intensity Probe  
Kit Type 3599

**Sound Intensity Probe Kit**

For further related information please see the 'Sound Intensity Probe Kit – Type 3599' page on [bksv.com](http://bksv.com).



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**Fig. 12**  
UA-2105

Front Panel UA-2105 is intended for use with charge accelerometers. It features six slots for direct mounting of Charge to CCLD Converter Type 2647.

**Uses**

- Charge accelerometers

**Features**

- 6 × slots for Charge to CCLD Converter Type 2647
- LED indicators: input, output, overload

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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2105-060	3050-A-060

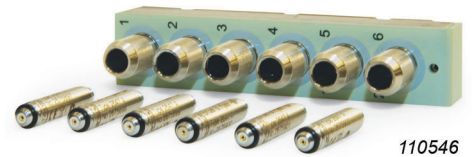


**Fig. 13**  
UA-2105 with  
Type 2647

**Related Information**

*Charge to CCLD Converter Type 2647*

For further related information please see the ‘[Charge to CCLD Converter – Type 2647](#)’ page on [bksv.com](#).



**Fig. 14**  
**Left:**  
UA-2107-120

LAN-XI Front Panels UA-2107-120 and UA-2107-A-120 feature 12 compact connectors. Both panels are fully compatible with LAN-XI Module Type 3053 with 12 input channels. Note that UA-2107-120 is supplied with Type 3053 as default.

**Right:**  
UA-2107-A-120

**Uses**

- General purpose sound and vibration measurements
- Direct voltage
- CCLD transducers: accelerometers, microphones and tacho probes
- Charge accelerometers (using Charge to CCLD Converter Type 2647)

**Features**

*UA-2107-120*

- 12 × SMB connectors
- LED indicators: input, overload, cable break

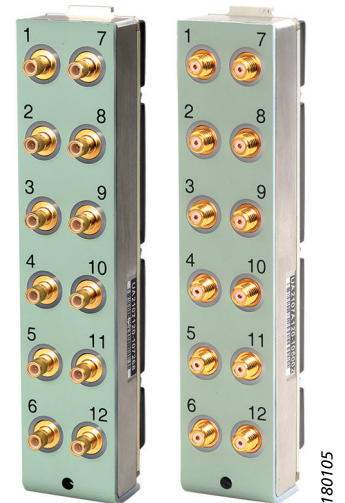
*UA-2107-A-120*

- 12 × Microdot (F) connectors
- LED indicators: input, overload, cable break

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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2107-120	3053-B-120
UA-2107-A-120	



**Fig. 15**  
UA-2108 family

The UA-2108 family features 4-pin connectors for use with Triaxial Cable AO-0528.

Using this front end/cable combination reduces the number of cables by two thirds when working with triaxial CCLD accelerometers.

**Uses**

- CCLD triaxial accelerometers

**Features**

- 2 or 4 × triaxial accelerometer connectors (4-pin)
- LED indicators: input, overload, cable break

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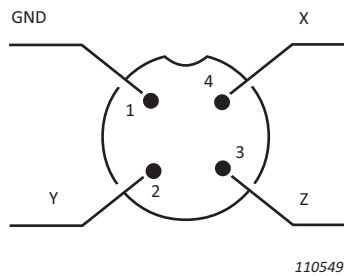
**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-2108-060	3050-A-060
UA-2108-120	3053-B-120



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**Fig. 16**  
Triaxial connector  
pinout



**Triaxial Accelerometers**

For further related information please see the [‘Accelerometers’](#) page on bksv.com.

**Fig. 17**  
UA-2109

Front Panel UA-2109 features a 50-pin D-sub connector; it is primarily to be used for applications where customized, non-standard cables are required.

**Uses**

- General purpose sound and vibration measurements
- Direct voltage
- CCLD transducers: accelerometers, microphones and tacho probes
- Charge accelerometers (using Type 2647)

**Features**

- 1 × D-sub connector (50-pin)
- LED indicators: input, overload, cable break

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**Compatibility**

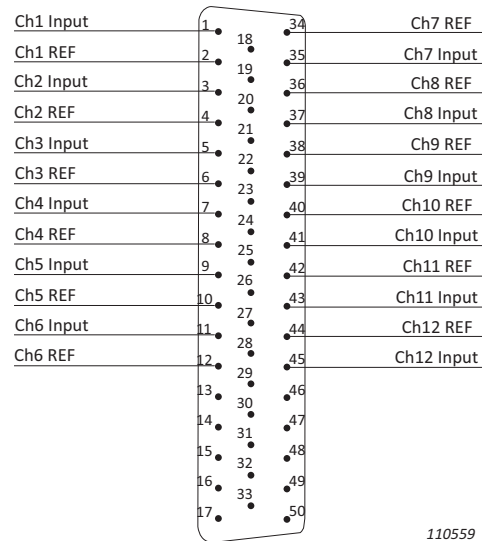
Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2109-120	3053-B-120



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**Fig. 18**  
50-pin D-sub  
connector pinout

**Related Information**



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**Note:**

Do not connect unused pins; they are for internal use only.

**Fig. 19**  
UA-2110

UA-2110 is an auxiliary front panel designed for applications combining auxiliary data with microphones that require 200 V polarization voltage.

It features four 7-pin LEMO connectors for 200 V microphones and/or angle encoders for high-speed tacho signals. It also has two 10-pin LEMO connectors for 8-channel auxiliary signal input.

The auxiliary channels are connected using aux. cable AO-0738-D-010.

**Uses**

- Low-frequency auxiliary data
- 200 V microphones
- General sound and vibration measurements
- Angle encoders/high-speed tacho signal

**Features**

- 4 × LEMO (7-pin) connectors
- 2 × LEMO (10-pin) auxiliary connectors
- LED indicators: input, overload, cable break



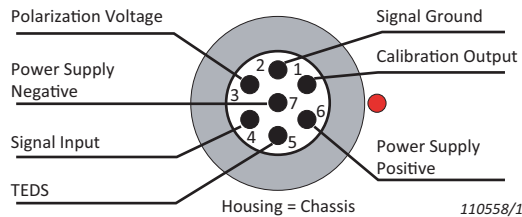
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**Compatibility**

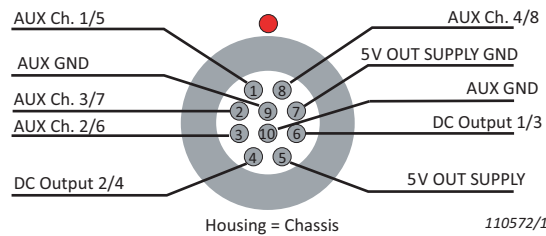
Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2110-040	3056-A-040

**Fig. 20**  
7-pin LEMO connector pinout

**Related Information**



**Fig. 21**  
10-pin LEMO Aux. connector pinout



**Fig. 22**  
UA-2111

UA-2111 is the default front panel on LAN-XI Module Type 3056-A-040. It features four BNC connectors for general purpose sound and vibration measurements and/or angle encoders for high-speed tacho signals. It also has two 10-pin LEMO connectors for 8-channel auxiliary signal input.

The auxiliary channels are connected using aux. cable AO-0738-D-010.

**Uses**

- Low-frequency auxiliary data
- General sound and vibration measurements
- Direct voltage
- Generator output
- CCLD transducers: accelerometers, microphones and tacho probes
- Charge accelerometers (using Type 2647)
- Angle encoders/high-speed tacho signal

**Features**

- 4 × BNC general purpose connectors
- 2 × LEMO (10-pin) auxiliary connectors
- LED indicators: input, overload, cable break



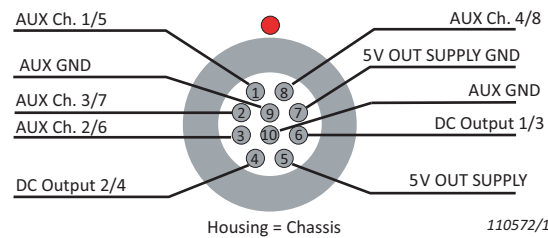
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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2111-040	3056-A-040

**Fig. 23**  
10-pin LEMO Aux.  
connector pinout

**Related Information**



**Fig. 24**  
UA-2112 family

The UA-2112 family features one and two multi-pin connectors for six array microphones. They are primarily intended for use with our array acoustic systems.

**Uses**

- Array acoustics

**Features**

- 1 or 2 × LEMO (7-pin) microphone array connectors
- LED indicators: input, overload, cable break

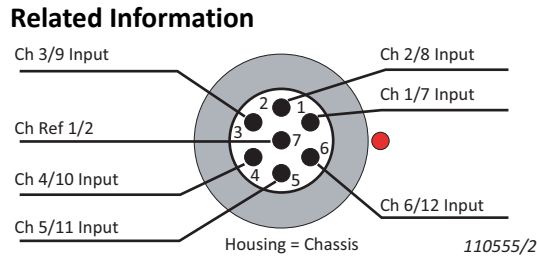
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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-2112-060	3050-A-060
UA-2112-120	3053-B-120



**Fig. 25**  
7-pin LEMO array connector



**Noise Source Identification**

For further related information please see the ‘[Noise Source Identification](#)’ page on bksv.com.

**Fig. 26**  
18-channel array connected to front panels UA-2112-120 and UA-2112-060



**Fig. 27**  
UA-2113

Front Panel UA-2113 provides buffered monitor output channels in parallel to the input channels. It allows input signals to be simultaneously fed into both the LAN-XI system and also a second system, for example, a recorder.

**Uses**

- Monitor outputs
- General sound and vibration measurements
- Direct voltage
- CCLD transducers: accelerometers and microphones

**Features**

- 6 × SMB connectors: general purpose input
- 6 × SMB connectors: monitor output
- LED indicators: input, output, overload, cable break

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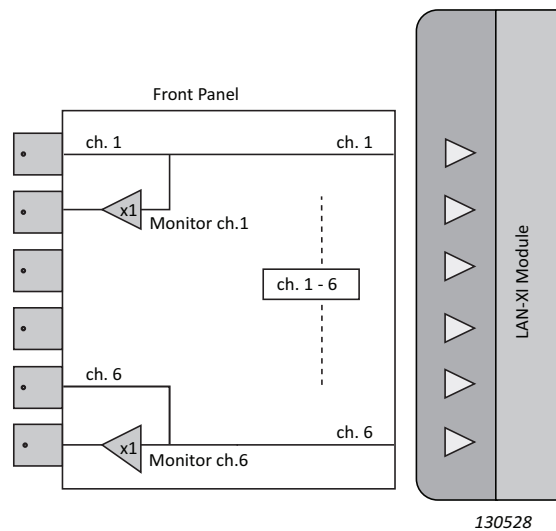


**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2113-060	3050-A-060

**Related Information**

**Fig. 28**  
Block diagram of  
UA-2113-066



**Note:**

At input voltages greater than  $10 V_{peak}$ , the monitor output will be clipped. You should therefore avoid using the monitor output when the LAN-XI module is in its extended  $31.6 V_{peak}$  input range.

**Fig. 29**  
UA-2114 family

The UA-2114 family is designed for use with Kulite® bridge transducers such as the LQ-080 series and the LQ-125 series, used in the aerospace industry for dynamic measurements on aircraft and in wind tunnels.

UA-2114 is supplied from  $\pm 5\text{ V}$  and delivers  $\pm 5\text{ V}$  excitation to the Kulite transducers. This gives the possibility of DC-coupling of the UA-2114 input amplifier, resulting in good noise performance at low frequencies (typically  $8\text{ nV}/\sqrt{\text{Hz}}$ ).

The lower frequency is set by the high-pass filters of the LAN-XI modules. DC-coupling down to zero is possible, but any DC offset from the transducers must be taken into account. A DC offset greater than about  $10\text{ mV}$  will force the Dyn-X input into its upper range, resulting in loss of dynamic range.



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The gain in the front-panel amplifier is 30 dB – optimized for the LAN-XI modules.

**Note:**

- The 30 dB gain has to be manually entered in the transducer database.
- UA-2114 is only intended for use with bridge transducers, and only with transducers that are self-powered.

**Uses**

- Kulite bridge transducers

**Features**

- 3, 4 or 6 × LEMO (7-pin) input connectors
- 2 × BNC generator output connectors on UA-2114-042
- Provides  $\pm 5\text{ V}$  excitation voltage to Kulite transducers
- LED indicators: input, output, overload

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**Compatibility**

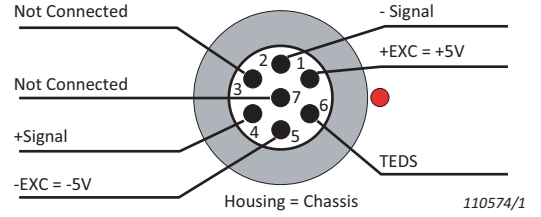
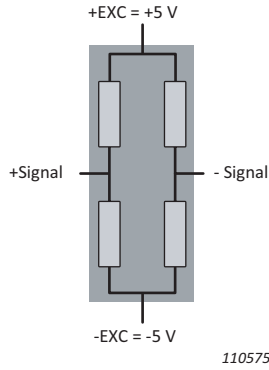
Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-2114-030	3052-A-030
UA-2114-060	3050-A-060
UA-2114-042	3160-A-042 3050-A-060

### Related Information

**Fig. 30**

**Left:** Kulite™ bridge transducer

**Right:** 7-pin LEMO connector

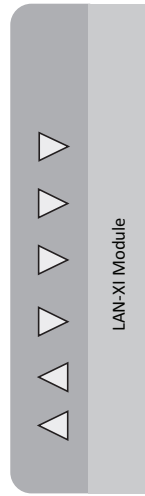
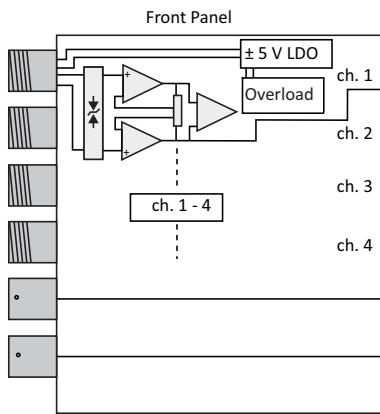


**Fig. 31**

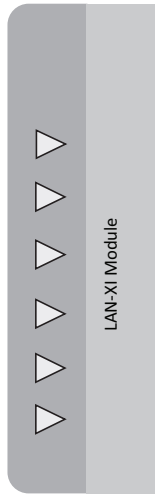
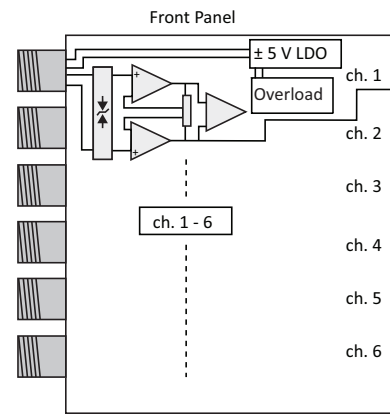
**Block diagrams of:**

**Left:** UA-2114-042

**Right:** UA-2114-060







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### Specifications – Dynamic Bridge Transducer UA-2114, Input

<b>Frequency Range</b>	0 – 102.4 kHz (–0.15 dB @ 20 kHz, –0.5 dB @ 102.4 kHz), typical
<b>Bridge Supply</b>	±5 V DC ± 4.5% @ max. 10 mA per channel
<b>Input Impedance</b>	>3 MΩ, protection against transients
<b>Differential Gain</b>	30.04 dB ± 0.05 dB @ 1 kHz
<b>Max. Input without Overload</b>	±0.15 V <sub>peak</sub>
<b>Max. Input without Damage</b>	±5 V <sub>peak</sub>
<b>Noise Floor</b>	Typical 8 nV/√Hz
<b>Excitation Voltage Overload Indication</b>	If excitation voltage on one of the channels is overloaded (too much current drawn), all channels will be indicated as overloaded as the excitation voltage is common for all channels. Overload indication for signal overload as for LAN-XI modules

With associated LAN-XI module:    

**Fig. 32**  
UA-2115-042

Voltage injection calibration (VIC) functionality is only available when using UA-2115-042 with the combination of Module Type 3160-A-042 and Microphone Pre-amplifier Type 2669-W-004. Type 2669-W-004 is specially designed to support VIC.

There are two possible calibration modes: charge injection calibration (CIC) and VIC. Set the polarization voltage in the analysis software interface to choose the mode: 0 V for VIC; 200 V for CIC.

**Uses**

- Voltage injection calibration

**Features**

- 4 × LEMO (7-pin) input connectors
- 2 × BNC output connectors
- LED indicator (turquoise): VIC

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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2115-042	3160-A-042



**Fig. 33**  
UA-2116-120

UA-2116-120 allows up to 12 charge-type transducers to be mounted directly to the LAN-XI front end, simplifying the setup and performance.

Ideal for high-channel-count charge accelerometer applications; in power-train applications; and for combustion-pressure monitoring on up to 12-cylinder engines.

The charge input front panel has 12 integrated charge amplifiers each with a fixed gain of 0 dB (-1 mV/pC) and a fixed high-pass filter of 0.1 Hz. Using this front panel with Brüel & Kjær analysis software will require additional set up in the software, as when using an external charge to CCLD converter, such as Type 2647.

**Uses**

- Charge type transducers: accelerometers, pressure transducers, hydrophones
- Combustion-pressure monitoring on up to 12-cylinder engines
- High-channel-count charge accelerometer applications

**Features**

- 12 × Microdot (F) connectors
- Built-in charge amplifiers 0 dB (-1 mV/pC) with 0.1 Hz high-pass filter
- LED indicators: input, overload



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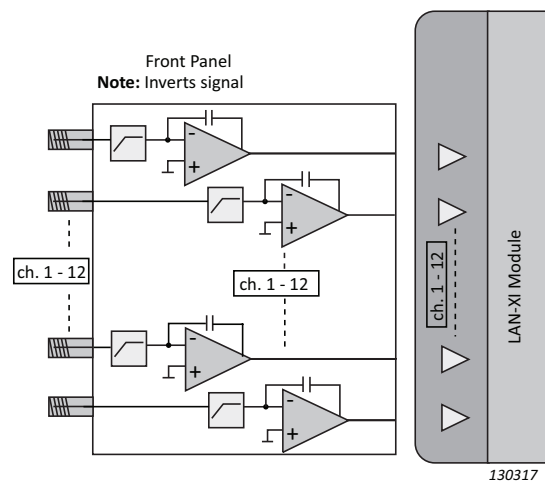
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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2116-120	3053-B-120

**Related Information**

**Fig. 34**  
Block diagram of  
UA-2116-120



With associated LAN-XI module:    

**Fig. 35**  
UA-2117-011

UA-2117-011 is the default front panel for LAN-XI Module Type 3161-A-011, a high-frequency input/output module with a frequency range of DC to 204.8 kHz. UA-2117-011 has one input channel and one output channel. The input channel features three kinds of connectors, which enable connection of different transducer types. As the connectors are connected to the same channel, you cannot use them simultaneously.

**Uses**

- High-frequency sound and vibration measurements
- Underwater acoustics applications
- High-energy impact measurements
- High-frequency system excitation and transducer calibration

**Features**

- Input connectors:
  - 1 × BNC (F) for direct/CCLD
  - 1 × 7-pin LEMO for 200 V mic
  - 1 × TNC (F) for charge
- Output connectors: 2 × BNC (F) for generator and monitor
- LED indicators: input, output, overload, cable break



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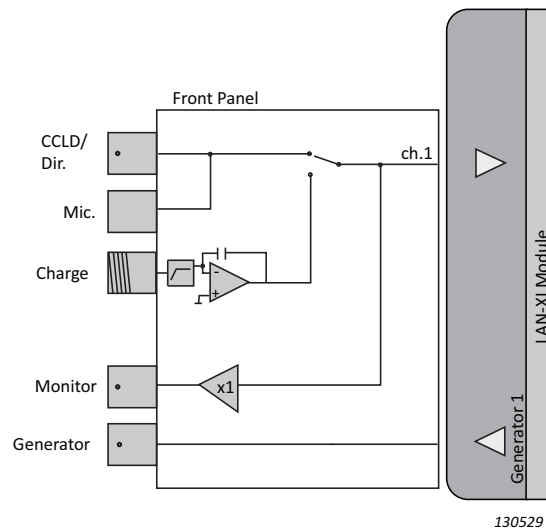
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**Compatibility**





Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2117-011	3161-A-011

**Related Information**

**Fig. 36**  
Block diagram of  
UA-2117-011



130529

With associated LAN-XI module:    

**Fig. 37**  
UA-2118-022

UA-2118-022 is a dedicated analogue interface for headphone testing allowing simultaneous testing of left and right earphones. A three-position switch on the front panel sets the output of Generator 1 to left, right or both earphones.

**Uses**

- Testing of headphones, small loudspeakers and receivers

**Features**

- Integrated 2 × 100 mW amplifier for driving headphones and small loudspeakers
- 0 dB output gain eliminates the need to take external gain factor into account
- Integrated load impedance feedback (1 V/A) on channels 3 and 4
- Simultaneous testing of left and right headphones
- 2 × LEMO (7-pin) input connectors
- 1 × 6.35 mm (1/4") TRS(F) connector (three-contact phone/headphone stereo jack connector)
- LED indicators: input, overload



Return to [Overview](#).

**Compatibility**

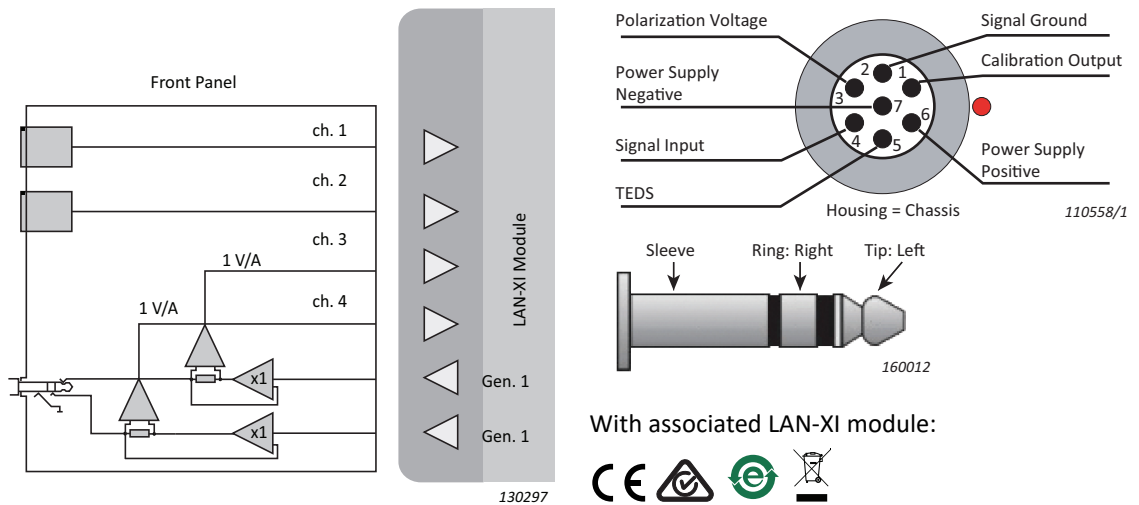
Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2118-022	3160-A-042

**Related Information**

**Fig. 38**  
Left: Block diagram of UA-2118-022

Top right: Pinout for the LEMO (7-pin) connectors

Bottom right: The headphone connector is compatible with standard 6.35 mm (1/4") TRS connectors for stereo jacks



Please note that the serial impedance of a jack connector can be significant, and depends heavily on the build quality of the connector. When including such a connector in the measurement path, the measurements should be compensated for the influence of the added impedance of the connector.

**Distortion (All Harmonics) – Typical Values**

	100 mW <sub>peak</sub>	10 mW <sub>rms</sub>	Unclipped Output
4 Ω	< -65 dB	< -80 dB	0.65 V <sub>peak</sub>
8 Ω	< -70 dB	< -90 dB	1.5 V <sub>peak</sub>
16 Ω	< -75 dB	< -90 dB	2.5 V <sub>peak</sub>
32 Ω	< -80 dB	< -90 dB	2.5 V <sub>peak</sub>
unloaded			3.5 V <sub>peak</sub>

**Typical Output Impedance:** < 0.05 Ω

**Fig. 39**  
UA-2119-060

UA-2119-060 allows up to six differential charge accelerometers, such as Type 8347-C, to be connected directly to the LAN-XI front end.

The front panel has six integrated differential charge amplifiers each with a fixed gain of 0 dB ( $-1 \text{ mV/pC}$ ) and a fixed high-pass filter of 0.1 Hz. Using this front panel with Brüel & Kjær analysis software will require additional set up in the software, as when using an external charge to CCLD converter, such as Type 2647.

**Uses**

- Differential charge accelerometers
- Environments with high levels of electromagnetic noise
- Applications where good ground connections are difficult to achieve

**Features**

- 6 × 2-pin TNC (M) connectors
- Built in differential charge amplifiers 0 dB ( $-1 \text{ mV/pC}$ ) with 0.1 Hz high-pass filter
- High immunity to electromagnetic interference (EMI)
- LED indicators: input, overload



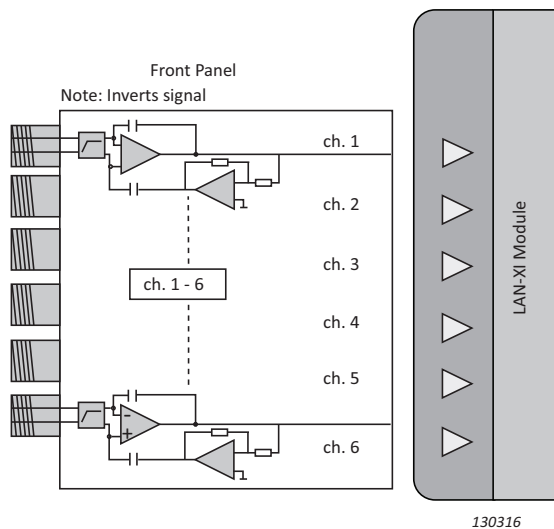
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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2119-060	3050-A-060

**Related Information**

**Fig. 40**  
Block diagram of  
UA-2119-060



With associated LAN-XI module:     

**Fig. 41**  
UA-2120-060

UA-2120-060 allows up to six charge type transducers to be connected directly to the LAN-XI front end, simplifying the setup and the performance.

The front panel has six integrated charge amplifiers each with a fixed gain of 0 dB ( $-1 \text{ mV/pC}$ ) and a fixed high-pass filter of 0.1 Hz. Using this front panel with Brüel & Kjær analysis software will require additional set up in the software as when using an external charge to CCLD converter, such as Type 2647.

**Uses**

- Charge-type transducers: accelerometers, pressure transducers, hydrophones

**Features**

- 6 × TNC (F) connectors
- Built-in charge amplifiers 0 dB ( $-1 \text{ mV/pC}$ ) with 0.1 Hz high-pass filter
- LED indicators: input, overload



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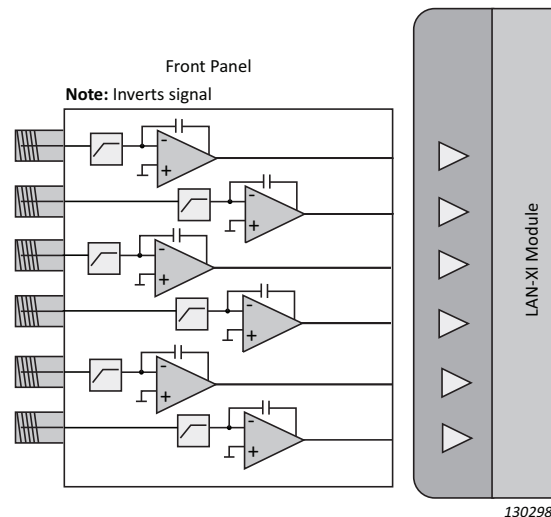
Return to [Overview](#).

**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2120-060	3050-A-060

**Related Information**

**Fig. 42**  
Block diagram of  
UA-2120-060



130298

With associated LAN-XI module:

**Fig. 43**  
UA-2121-030

UA-2121-030 is the default front panel for LAN-XI Bridge Module Type 3057-B-030. It features 15-pin D-sub connectors which allow individual configurations of completion resistors to be made directly on the cable plug.

**Uses**

- Bridge transducer measurements:
  - 1/1, 1/2, 1/4 bridge strain gauges
  - Strain gauge based transducers (force, mass, torque)
  - Piezoresistive accelerometers and pressure transducers
  - Variable capacitance accelerometers
- General sound and vibration measurements:
  - CCLD transducers: accelerometers, microphones, and tacho probes
  - Direct voltage signals

**Features**

- 3 × 15-pin D-sub connectors
- LED indicators: input, overload, cable break



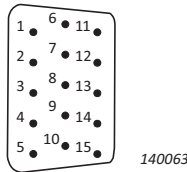
Return to [Overview](#).

**Compatibility**

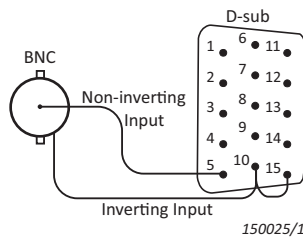
Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-2121-030	3057-B-030

**Related Information**





**Fig. 44**  
D-sub connector  
pinout of  
UA-2121-030  
(front view)



**Fig. 45**  
Pin connections for  
BNC to D-sub  
adaptor UA-0275.  
The D-sub connector  
is shown as seen  
from front of panel.  
Inverting input is  
permanently  
grounded.  
Grounded/floating  
switching is not  
available with the  
BNC adaptor



1	Cal1 (floating)	Shunt calibration resistor, terminal 1
2	Exc-	Bridge excitation return
3	Exc+	Bridge excitation output
4	Not used	
5	In+	Non-inverting input
6	TEDS	TEDS communication
7	RS-	Remote sense low side
8	RS+	Remote sense high side
9	For future use	
10	In-	Inverting input
11	Cal2 (floating)	Shunt calibration resistor, terminal 2
12	QB midpoint	Midpoint of quarter bridge completion (tied to 3 via completion resistor when enabled)
13	Mon-	Monitor return
14	Mon+	Monitor output
15	GND	Analogue ground
Shield	GND	Analogue ground

With associated LAN-XI module:    

**Fig. 46**  
UA-2145-D

Array Front Panel UA-2145-D for 11 LAN-XI modules is intended for use with hand-held microphone arrays together with a LAN-XI Frame Type 3660-D.

**Uses**

- Noise source identification using mapping techniques in conjunction with acoustic holography calculations, conformal mapping calculations and a 3D positioning system
- Hand-held arrays such as Type 3662-A-001 (single layer, without microphones, 8 × 8, 25 mm spacing, 5 m cable) and Type 3662-A-002 (double layer, without microphones, 8 × 8, 25 mm spacing, 5 m cable)
- One to eleven, 12-channel input modules Type 3053-B-120



**Features**

- Enables up to 132 signal channels to be connected to a LAN-XI-D-frame in seconds by means of a single (zero insertion force) connector
- 4 × BNC sockets and 8 × SMB sockets for reference signals on the eleventh module
- LED indicators: input, output, overload, cable break

Return to [Overview](#).

**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-2145-D	One to eleven Type 3053-B-120 modules (and Battery Module Type 2831-A)

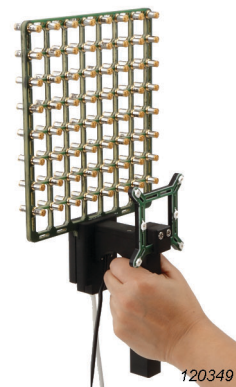
**Related Information**

*Noise Source Identification with Acoustical Array*

For further related information please see the [‘Microphone Array’](#) and [‘Noise Source Identification’](#) pages on bksv.com.

**Fig. 47**  
**Left:** UA-2145-D fitted to a Type 3660-D frame, with 11 × Type 3053-B-120, 12-channel modules

**Right:** Double-layer, 8 × 8 hand-held array



**Fig. 48**

**Left:**  
UA-3100-041

**Right:**  
UA-3100-042

UA-3100-041 is designed for use with LAN-XI Light Module Type 3677-A-041 and UA-3100-042 is designed for use with LAN-XI Module Type 3160-A-042. Both front panels have four input channels. UA-3100-041 has one generator output channel and UA-3100-042 has two generator output channels.

**Uses**

- General sound and vibration measurements
- Direct voltage
- CCLD transducers: accelerometers, microphones and tacho probes
- Generator output

**Features**

- 4 × BNC input connectors
- 1 and 2 × BNC output connectors
- Output silent on start-up
- LED indicators: input, output, overload, cable break



Return to [Overview](#).

**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-3100-041	3677-A-041
UA-3100-042	3160-A-042

**Fig. 49**

UA-3101-080

UA-3101-B-080 is the default front panel for LAN-XI Module Type 3058-B-080, which has two independent CAN Bus input connectors. This front panel is ideal for automotive noise, vibration and harshness (NVH) applications.

**Uses**

- CAN Bus applications
- Sound quality metrics
- General sound and vibration measurements
- CCLD transducers: accelerometers, microphones and tacho probes

**Features**

- 8 × SMB (M) connectors for transducer signal input
- 2 × 8-pin LEMO (F) connectors for CAN Bus input
- Supports HATS (head and torso simulator) with AES3 balanced input using two channels (3 + 7 and 4 + 8, SMB connectors)
- LED indicators: input, overload, cable break



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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Module
UA-3101-080	3058-B-080

**Fig. 50**

**Left:**  
UA-3102-041

**Right:**  
UA-3102-042

UA-3102-041 is for use with LAN-XI Light Module Type 3677-A-041 with four input channels and one generator output channel. UA-3102-042 is designed for use with LAN-XI Module Type 3160-A-042 with four input channels and two generator output channels.

**Uses**

- Microphones requiring 200 V external polarization
- General sound and vibration measurements
- Direct voltage
- CCLD transducers: accelerometers, microphones and tacho probes
- DC responding accelerometers

**Features**

- 4 × LEMO (7-pin) input connectors
- 1 and 2 × BNC output connectors
- Output silent on start-up
- LED indicators: input, output, overload, cable break



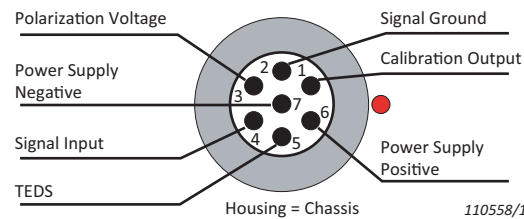
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**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-3102-041	3677-A-041
UA-3102-042	3160-A-042

**Fig. 51**  
7-pin LEMO  
connectors, seen from  
front of panel

**Related Information**



**Fig. 52**  
UA-3111-060

UA-3111-060 allows up to six CVLD accelerometers to be connected directly to the LAN-XI front end, simplifying setup and optimizing performance. Note that using this front panel with Brüel & Kjær analysis software will require additional set up.

**Uses**

- CVLD accelerometers
- Environments with high levels of electromagnetic noise
- High immunity to electromagnetic interference (EMI)

**Features**

- 6 × 2-pin TNC (M) connectors
- LED indicators: input, overload

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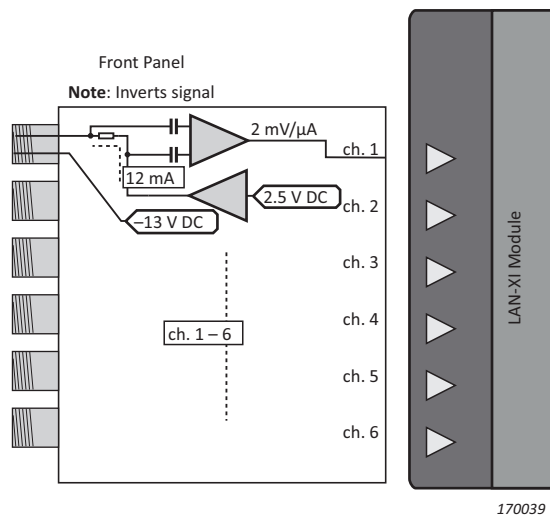
**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-3111-060	3050-A-060







**Fig. 53**  
Block diagram of  
UA-3111-060

**Related Information**



**Fig. 54**  
2-pin TNC pinout

With associated LAN-XI module:    

**Fig. 55**  
UA-3112-030

Front panel UA-3112-030 extends the use of LAN-XI Bridge Module Type 3057, enabling measurements with CCLD transducers.

For each input channel, there is a buffered monitor output in parallel so input signals can be simultaneously fed into both the LAN-XI system and a second system, for example, a recorder.

**Uses**

- General purpose sound and vibration measurements
- Direct voltage
- CCLD transducers: accelerometers, microphones and tacho probes

**Features**

- 3 × BNC connectors: general purpose input
- 3 × SMB connectors: monitor output
- LED indicators: input, output, overload, cable break

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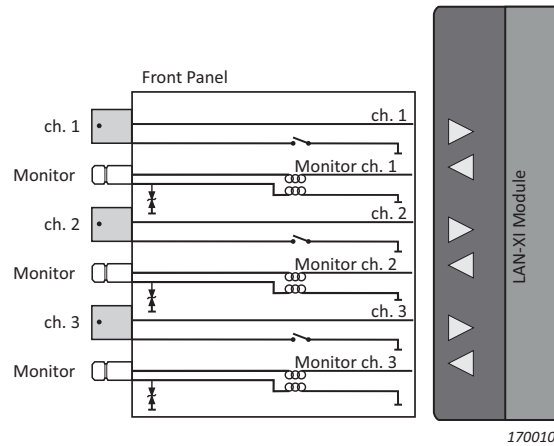
**Compatibility**





Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-3112-030	3057-B-030



**Fig. 56**  
Block diagram of  
UA-3112-030

**Related Information**



With associated LAN-XI module:    

**Fig. 57**  
UA-3121-030

UA-3121-030 is for use with LAN-XI Bridge Module Type 3057. The front panel has three input channels with buffered monitor output channels in parallel. Each input channel has a 15-pin D-sub connector for bridge transducer input and two Microdot connectors for differential charge input. The 15-pin D-sub connectors allow individual configurations of completion resistors to be made directly on the cable plug. Note that you can use only one kind of input at a time per channel.

UA-3121-030 and UA-3122-030 are very similar. UA-3121-030 has connectors for differential charge input and UA-3122-030 has connectors for direct or CCLD input.

**Uses**

- Bridge transducer measurements
  - 1/1, 1/2 and 1/4 bridge strain gauges
  - Strain gauge based transducers (force, mass and torque)
  - Piezoresistive accelerometers and pressure transducers
  - Variable capacitance accelerometers
- General sound and vibrations measurements using:
  - CCLD transducers
  - Direct voltage signals
  - Charge accelerometers
  - Differential charge accelerometers
- Environments with high levels of electromagnetic noise
- Applications where good ground connections are difficult to achieve

**Features**

- 3 channels, each with:
  - 1 × 15-pin D-sub connector: bridge transducer
  - 2 × Microdot (F) connectors: differential charge input
  - 1 × SMB connector: monitor output
- High immunity to electromagnetic interference (EMI)
- LED indicators: input, output, overload, cable break



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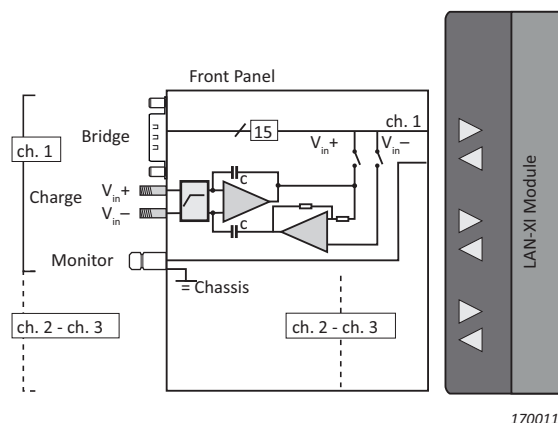
**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-3121-030	3057-B-030

**Related Information**

The pinout for the D-sub connector is shown in Fig. 44, and the pin connections of adaptor UA-0275 are shown in Fig. 45.

**Fig. 58**  
Block diagram of  
UA-3121-030



With associated LAN-XI module:



**Fig. 59**  
UA-3122-030

UA-3122-030 is for use with LAN-XI Bridge Module Type 3057. It features three input channels with buffered monitor output channels in parallel. Each channel has three input connectors: one for bridge transducers, one for charge signals and one for direct/CCLD signals. The 15-pin D-sub connectors allow individual configurations of completion resistors to be made directly on the cable plug. Note that you can use only one kind of input at a time per channel.

UA-3121-030 and UA-3122-030 are very similar. UA-3121-030 has connectors for differential charge input and UA-3122-030 has connectors for direct or CCLD input.

**Uses**

- Bridge transducer measurements
  - 1/1, 1/2 and 1/4 bridge strain gauges
  - Strain gauge based transducers (force, mass and torque)
  - Piezoresistive accelerometers and pressure transducers
  - Variable capacitance accelerometers
- General sound and vibrations measurements using:
  - CCLD transducers
  - Direct voltage signals
  - Charge accelerometers
- Environments with high levels of electromagnetic noise
- Applications where good ground connections are difficult to achieve

**Features**

- 3 channels, each with:
  - 1 × 15-pin D-sub connector: bridge transducer
  - 1 × Microdot (F) connector: charge input
  - 2 × SMB connectors: direct/CCLD input and monitor output
- High immunity to electromagnetic interference (EMI)
- LED indicators: input, output, overload, cable break



Return to [Overview](#).

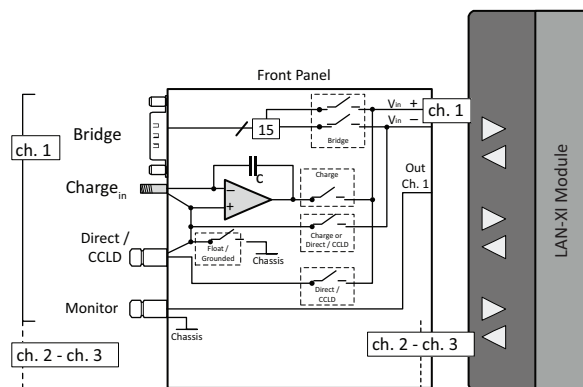
**Compatibility**

Front Panel/Order No.	Fully Compatible LAN-XI Modules
UA-3122-030	3057-B-030

**Related Information**

The pinout for the D-sub connector is shown in Fig. 44, and the pin connections of adaptor UA-0275 are shown in Fig. 45.

**Fig. 60**  
Block diagram of  
UA-3122-030



180194/1





With associated LAN-XI module:



## Compliance with Standards

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Where stated the front panels and associated LAN-XI modules comply with the following standards:

- |  |   |
|--|---|
|  The CE marking is the manufacturer's declaration that the product meets the requirements of the applicable EU directives                    |  WEEE mark indicates compliance with the EU WEEE Directive   |
|  RCM mark indicates compliance with applicable ACMA technical standards – that is, for telecommunications, radio communications, EMC and EME |  China RoHS mark indicates compliance with administrative measures on the control of pollution caused by electronic information products according to the Ministry of Information Industries of the People's Republic of China |