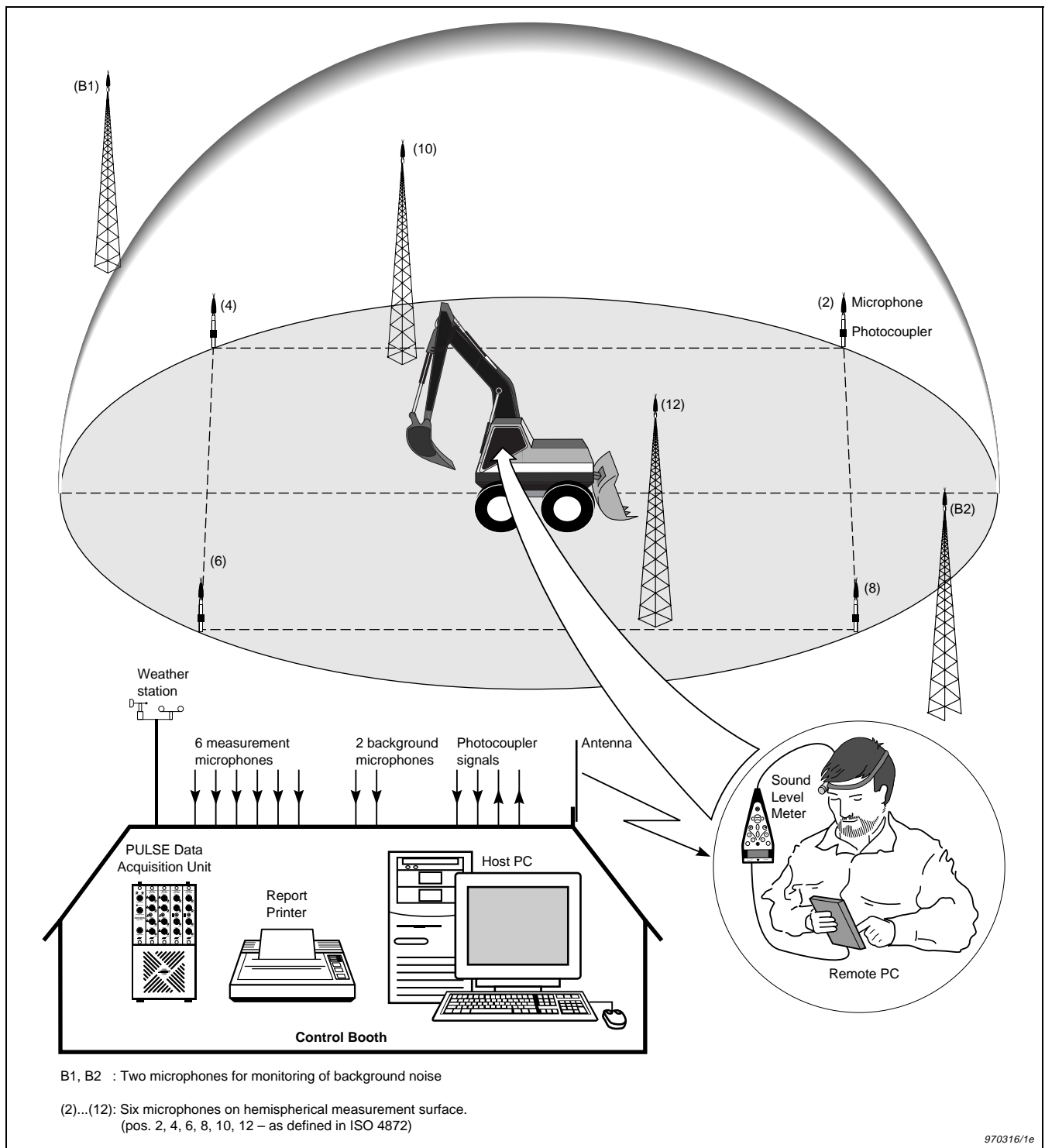


System Summary

Dynamic Sound Test System

— for testing to ISO 6393, 6394, 6395, 6396



970316/1e

Dynamic Sound Test System

Notes:

The use of Background Noise Microphones is optional, but recommended. When used, they can be mounted on existing structures (e.g., lamp pylons) adjacent to the test field rather than onto separate masts (as shown in the figure).

Cable connections between microphones/photocouplers on the test site and instrumentation in the control booth (host PC with PULSE/AudiBel and peripherals) must be established via assembly boxes, positioned at regular intervals over the test site.

A separate document assists in test site preparations.

The following parts listings comprise the basic instrumentation required after the test site has been prepared with poles, masts, assembly boxes and pipes/channels (beneath the test field) for establishment of cable connections to the control booth. Also, mechanical parts for mounting microphones and drive-by sensors are normally produced by the user, as special adaptations to the specific site are generally required.

Listings cover a typical measurement system (as shown in the figure) with six measurement microphones, two background microphones and a radio frequency link, enabling all tests to be conducted by one non-technical person. The listings have been divided into equipment related to test site, control booth and machine cabin, respectively.

Optional parts are marked with an asterisk (*).

Test Site Equipment

Microphone System:

Type	Name	Qty	
Alternative A:			
4184	Weatherproof Microphone Unit	8	
WL 1268/x	Microphone Extension Cable (adapted length)	8	a, e
WL 1269/x	Microphone Extension Cable (adapted length)	8	b, e
WH 3215	Internal Modification of 4184	8	c
Alternative B:			
4198	Outdoor Microphone Unit	8	
WL 1269/x	Microphone Extension Cable (adapted length)	8	a, e
WL 1269/x	Microphone Extension Cable (adapted length)	8	b, e

Re Microphones:

Type 4184 is the recommended permanent low-maintenance microphone solution.

The Type 4198 solution, which has a lower cost, is intended for semi-permanent installations, i.e., it should be inspected at regular intervals.

Please refer to the Type 4194 and 4198 Product Data for more information.

In a minimum system without background microphones, quantity statements for microphones and cables will be 6 instead of 8 units.

Notes:

a: From Microphone to Assembly Box.

b: From Assembly Box to Control Booth.

c: For connection of Type 4184 to Microphone Module Type 3028 of the PULSE Front-end.

d: Pair of Photoelectric Transmitter/Receiver Cells.

e: Required length to be specified.

Drive-by Sensor System:

Type	Name	Qty	
WQ 1195	Photocoupler pairs	2	d
WL 1274/x	Cable (Cell to Assembly Box)	4	e
WL 1275/x	Cable (Assembly Box to Host PC)	4	e

Control Booth Equipment

PULSE System: (Hardware/Software/Services)

Type	Name	Qty
2825	Acquisition Front-end (5 slots)	1
7521	Signal Analyzer Interface Module	1
3028	4-channel Microphone Module	2
3107	Generator Module	1
FA 1009	Blank Panel	1
UL 0106	Compaq Deskpro (Host PC)	1
UL 0108	Compaq 15" FS Colour Screen	1
ZD 0815	TAXI Interface Module	1
ZD 0812	250 MFLOPS DSP Board	1
7700 B	Noise and Vibration Analysis (8-channel license)	1
BZ 5197	Microsoft Windows NT	1
BZ 5196	Microsoft Office NT	1
3560-SI1	Installation and Configuration	1
7700B-MS1	Maintenance and Upgrade Agreement for 7700 B	1

AudiBel Program and Auxiliary Equipment:

Type	Name	Qty	
WT 9292	AudiBel-Host Application Program.	1	a
WU 0551	Auxiliary Data Acquisition Items	1	b
WU 0552	System Integration	1	c
WQ 1196	Printer (HP5L or similar)	1	
WQ 1197	Weather Station (temp/direction/speed)	1	d
4231	Sound Level Calibrator	1	

Notes:

- a: Incl. Machine Database, Users Database, AudiBel-Remote (virtual), AudiBel Statistics, AudiBel Background Noise (2 channel).
- b: Multifunction I/O Board for weather data, photocoupler signals, etc.
- c: Installation of PULSE system, incl. Host PC (with AudiBel software, I/O card, etc.) in Rack Enclosure, System Test and Documentation.
- d: Required length of cable from station to Host PC to be specified.

Re PULSE: The configuration shown is a minimum configuration for the Dynamic Sound Test System. Alternative PULSE configuration options are available. Ordering information can be downloaded from Internet (home page "<http://www.bk.dk>") after selecting PULSE products.

Machine Cabin Equipment

Type	Name	Qty		Notes:
WU 0553	Remote PC package	1	a*	a: Pen computer with AudiBel Remote sw. The package includes Radio Frequency Hardware for wireless LAN communications between Remote PC and Host PC.
2236 A	Sound Level Meter	1		
WU 0554	Headband with Microphone Holder	1	b	b: Incl. extension cable for microphone of the Sound Level Meter and RS232 cable between SLM and Pen computer.

Re Remote Control: Remote PC and radio frequency hardware is optional, but strongly recommended, as this equipment will enable the test driver to control the whole measurement task. Machine operations as well as measurement control can thus be accomplished by only one person – the test driver.

Miscellaneous

Type	Name	Qty		Notes:
WT 9293	Dual-site Software	1	a*	a: Allows set up of an additional test site adjacent to primary site.
WQ 1198	Calibration Status Lightbar	1	b*	b: Yellow-red-green lamps indicate calibration status during an acoustical calibration. Required length of cable to the Host PC to be specified.

Re Dual Site Systems: The AudiBel control program can accommodate two hemisphere arrangements (test pads), thereby allowing tests on different track types (e.g., concrete and sand).

If test pads are adjacent, the secondary pad can be configured to share 3 microphones with the primary pad. The AudiBel program allows hemispheres be configured with only 3 microphones, as the operator will then be prompted to orientate the machine during tests to obtain the required 6 microphone locations in the measurement.

If test pads are not adjacent, or if the radii of hemispheres are different, the secondary pad must be configured with 3 separate microphones, meaning that the number of microphones in the dual site system becomes 11 (9 measurement and 2 background microphones). This will affect configuration of the PULSE system (extra 3028 module will be required, and licenses must be for a 12-channel system).

Dynamic Sound Test System

Service/Maintenance

Type	Name	Qty	Notes:
WW 5980	Site Planning Assistance	1 a*	a: Document with advice for Test Site layout available free of charge.
WW 5981	On-site Installation & Training	1 b*	b: A two-days arrangement will be typical.
WT 9292–MS1	Maintenance, Enhancement and Support agreement for AudiBel Host/Remote software	1 *	
WT 9293–MS1	Maintenance, Enhancement and Support agreement for AudiBel Dual Site software	1 *	

The Dynamic Sound Test System is a customised product. Please contact your Brüel & Kjær representative for more information.