

TEST CERTIFICATE

CLIENT: DNH Worldwide Limited
31 Clark Road
Mount Farm
Bletchley
Milton Keynes
MK1 1LG

CERTIFICATE NUMBER 22412/03 Issue 01

CUSTOMER ORDER NUMBER Keith Gold

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DATE OF RECEIPT 18 October 2021

TEST ITEM(S)

Description	Model Number	Serial Number	Date Received	Test Conducted
Loudspeaker	DSP-15T(A)	Not Serialised	18/10/21	IP6X, IPX6
Loudspeaker	DSP-15T (B)	Not Serialised	11/11/21	IPX7

TEST SPECIFICATION / ISSUE

BS EN 60529:1992 +A2:2013 IP6X Category 1
BS EN 60529:1992 +A2:2013 IPX6
BS EN 60529:1992 +A2:2013 IPX7

DATE OF TEST

IP6X: 20 October 2021
IPX6: 21 October 2021
IPX7: 12 November 2021

TEST(S) APPLIED

IP6X - Protection Against Solid Foreign Objects, Dust-Tight
Initially the test item was examined for apertures and openings allowing penetration of a 1mm diameter probe applied with a force of 1N.

Prior to testing a 19.9 mbar vacuum was applied to the unit, the air flow was recorded at 80 cm³/min, therefore a test period of 8 hours was required. The test conditions were as follows:

Dust Grade: BS EN 60529 Talc Test Dust
Concentration: 2 kg/m³
Duration: 8 hrs
Temperature/Humidity: 18.1°C / 53% rh

IPX6 - Protection Against Powerful Water Jets

The EUT was placed into the centre of the water test area, it was then allowed to temperature stabilise until the temperature differential between the water and the unit was less than 5°C. The test item was then subjected to water from all practicable directions. The test conditions were as follows:

Flow rate: 100 l/min
Nozzle: IPX6 compliant (12.5 mm)
Duration: 3 minutes
Temperature/Humidity: 14.5°C / 49% rh

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IPX7 - Temporary Immersion in Water

The test item was secured to a fixture then lowered in the submersion tank, it was immersed into the water to a depth of 1 metre below the surface for a period of 30 minutes. The temperature difference between the water and the test items was less than 5°C. The test conditions were as follows:

Test Duration:	30 minutes
Distance from bottom of enclosure to water surface:	1000 mm ±10mm
Water temperature:	14.1 °C
Test item temperature:	15.5 °C
Ambient temperature	16.4 °C
Ambient Humidity	60 %rh

RESULT(S) OF TEST

IP6X

There were no apertures permitting entry with a 1mm diameter probe when using a force of 1N on either unit under test.

On completion of the test excess dust was removed by light brushing, no conspicuous damage was noticed on the exterior of the unit, an internal inspection showed no visible dust ingress.

IPX6

On completion of the test excess water was removed, no conspicuous damage was noticed on the exterior of the unit, an internal inspection showed no visible water ingress.

IPX7

On completion of the test excess water was removed, no conspicuous damage was noticed on the exterior of the unit, an internal inspection showed no visible water ingress.

COMPLIANCE

DSP-15T(A) conformed to the requirements of BS EN 60529:1992 A2:2013 IP6X Category 1.

DSP-15T(A) conformed to the requirements of BS EN 60529:1992 A2:2013 IPX6.

DSP-15T(B) conformed to the requirements of BS EN 60529:1992 A2:2013 IPX7.

Approved by
Greg Spicer, MEng
Managing Director
Date: 26 January 2022