



# XCQ108 Expandable Multi-channel Data Acquisition System

## Features:

- Support up to 8 analog data acquisition cards or analog output cards in single chassis, and can realize up to 64 channels
- 2 general input and output PFI interfaces
- Support synchronous acquisition or output
- Portable and small compact chassis
- Data transmission with computer through USB interface



## Applications:

- Acoustic array
- Acoustic power measurement
- Other multi-channel data acquisition

## Introduction

**XCQ108** is expandable multi-channel data acquisition system developed by BSWA. It can support up to 8 analog data acquisition cards or analog output cards in single chassis to create a multi-functional combined measurement instrument with up to 64 channels. The chassis is equipped with two general input and output PFI interfaces which can be used as pulse input or output, and a USB interface was used for data transmission with computer.

**XCQ108** support XDQ004 (four channel analog acquisition), XDQ008 (eight channel analog acquisition), XDQ004 (four channel analog output), etc. All the inserted acquisition and output cards support data synchronous data sampling and output between each other.

## XCQ108 Specifications

Number of Card Slots	8 slots
Chassis PFI	Maximum input/output frequency: 1 MHz. Interface: BNC Input high threshold: >2.3 V, Input low threshold: <0.8 V Maximum input voltage: ±20 Vpk Output high voltage: >3.4 V, output low voltage: <0.8 V Maximum output current: ±8 mA
USB Interface <sup>1</sup>	USB-Type B, USB 2.0 High-Speed compliant
Power Supply	External DC power supply 9 V~30 V (15 W Max.)
Operation Environment	Temperature: -10°C~50°C, Humidity: 5% RH~95% RH (non-condensing)
Dimensions (mm)	W260 x H155 x D110
Weight	0.9 kg (chassis only)

Note 1: If USB HUB is used to connect XCQ108 and computer, ensure that USB HUB can provide reliable power supply.

**XDQ004 Specifications**

Input Channel	4 channel synchronous sampling
Input Interface	BNC with ICCP power supply (2 mA / 21 V) and AC/DC mode switch (software selectable)
Self-Generated Noise Level	30 dBA (reference sensitivity: 50 mV/Pa)
Input Frequency Response	2 Hz~20 kHz ( $\pm 0.5$ dB, input sampling rate 51.2 kHz)
Input Dynamic Range	101 dB
AD Resolution	24 bits
Maximum Input Voltage	$\pm 5$ Vpk
Power Supply	Bus power supply
Operation Environment	Temperature: $-10^{\circ}\text{C}\sim 50^{\circ}\text{C}$ , Humidity: 5% RH~95% RH (non-condensing)

**XDQ008 Specifications**

Input Channel	8 channel synchronous sampling
Input Interface	10-32 coaxial jack with ICCP power supply (2 mA / 21 V) and AC/DC mode switch (software selectable)
Self-Generated Noise Level	25 dBA (reference sensitivity: 50 mV/Pa)
Input Frequency Response	2 Hz ~ 20 kHz ( $\pm 0.5$ dB, input sampling rate 51.2 kHz)
Input Dynamic Range	106 dB
AD Resolution	24 bits
Maximum Input Voltage	$\pm 5$ Vpk
Power Supply	Bus power supply
Operation Environment	Temperature: $-10^{\circ}\text{C}\sim 50^{\circ}\text{C}$ , Humidity: 5% RH~95% RH (non-condensing)

**XDA004 Specifications**

Output Channel	4 channel analog output
Output Interface	10-pin detachable screw-terminal connector
Output Noise	Updating at 100 kS/s: 600 $\mu\text{V}_{\text{RMS}}$ . No updating: 260 $\mu\text{V}_{\text{RMS}}$
Output Slew Rate	4 V/ $\mu\text{s}$
Output Setting Time (100pF Load)	20 $\mu\text{s}$
DA Resolution	16 bits
Maximum Output Voltage	$\pm 10$ Vpk
Maximum Output Current	$\pm 1$ mA per channel
Output Impedance	2 $\Omega$
Power Supply	Bus power supply
Operation Environment	Temperature: $-10^{\circ}\text{C}\sim 50^{\circ}\text{C}$ , Humidity: 5% RH~95% RH (non-condensing)