

# Quick Start

## DEMO876xAH Demonstration Board for ADC1006S055/070 family

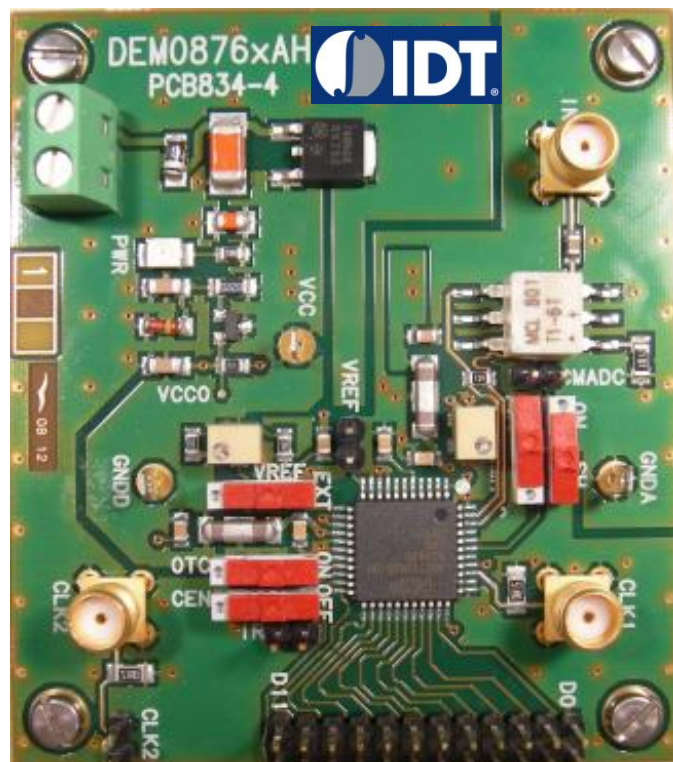
Rev. 2.0 — 2 July 2012

Quick Start

### Document information

Info	Content
<b>Keywords</b>	DEMO876xAH, PCB834-4, Demonstration board, ADC, Converter, ADC1006S055/070
<b>Abstract</b>	This document describes how to use the demonstration board DEMO876xAH for the analog-to-digital converter ADC1006S055/070 family.

### Overview



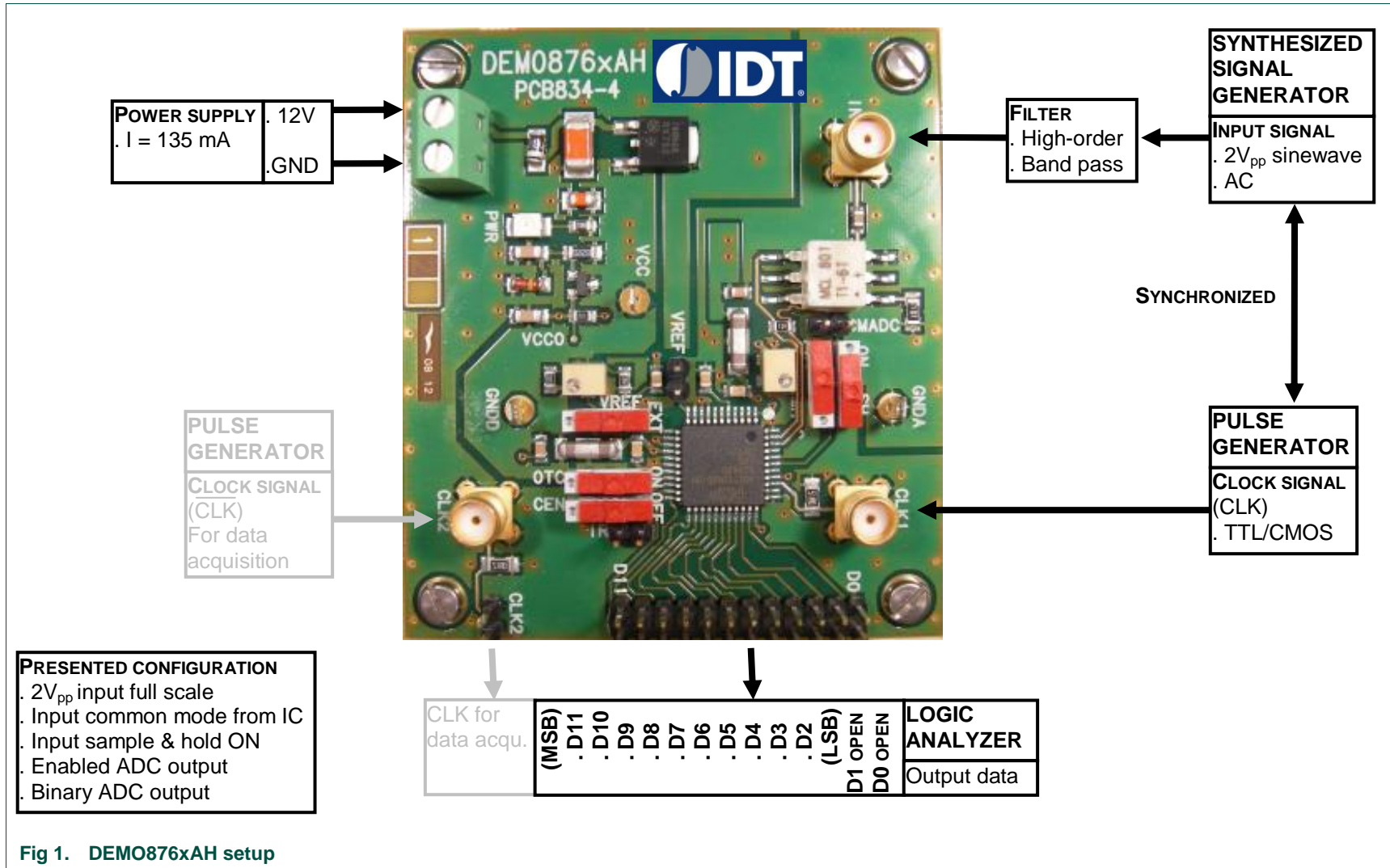
### Revision history

Rev	Date	Description
2.0	20120702	Rebranded.
0.2	20080610	Example added.

# 1. Quick start

## 1.1 Setup overview

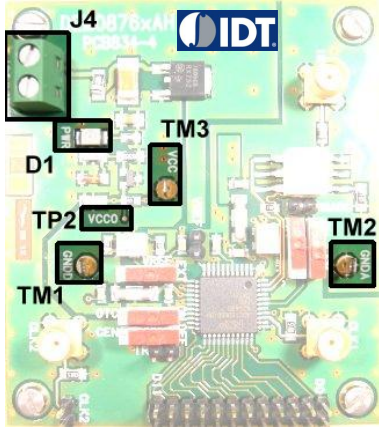
Figure Fig.1 presents the connections to measure DEMO876xAH.



## 1.2 Power supply

The board is powered with a single 12 V<sub>DC</sub> power supply. A power supply regulator is used to supply all the circuitry on the board.

**Table 1. General power supply**

Name	Function	View
J4	Green connector – Power supply 12 V <sub>DC</sub> / 135 mA.	
D8	PWR green light – It indicates the good supply plugging	
TM1	DGND test point – Digital ground	
TM2	AGND test point – Analog ground	
TM3	VCC test point – ADC core power supply	
TP2	VCCO test point – Output stage power supply	

## 1.3 Input signals (IN, CLK1)

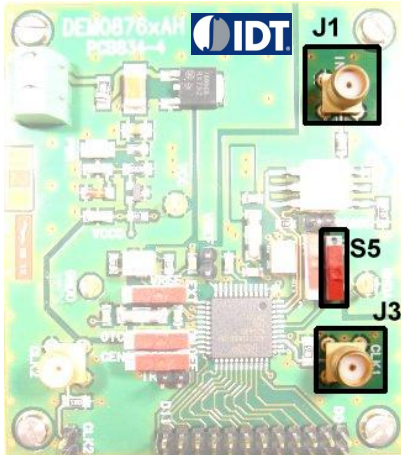


To ensure a good evaluation of the device, the input signal and the input clock must be synchronized together.

Moreover, the input frequency (F<sub>i</sub>, MHz) and the clock frequency (F<sub>clk</sub>, Msp/s) should follow the formula:

$$\frac{F_i}{F_{clk}} = \frac{M}{N}$$

,where M is an odd number of period and N is the number of samples.

**Table 2. Input signals**

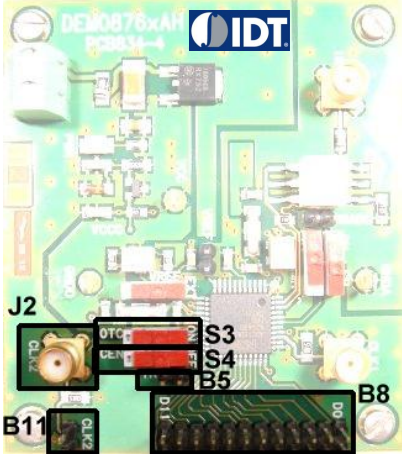




Name	Function	View		
J1	IN connector – Analog input signal (50Ω matching)			
J3	CLK1 connector – Clock input signal (50Ω matching)			
S5	SH switch – Activation of the input sample-and-hold			
	Active 7MHz < F <sub>clk</sub> < 70MHz		Tracking mode F <sub>i</sub> < 1 MHz	

## 1.4 Output signals (D2 to D11, IR)

The digital output signal is available in binary or 2's complement format.

An optional clock connector is available to simplify the acquisition clock generation.

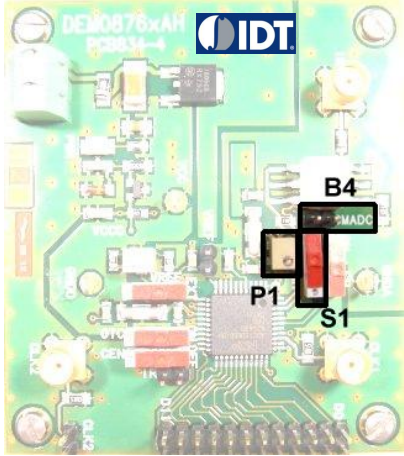


**Table 3. Output signals**

Name	Function	View
B8	Array connector – ADC digital output (D2 to D11)	
B5	IR test point – It indicates the out of range state of the analog input signal	
J2-B11	CLK2 connector – Optional clock for the data acquisition	
S3	OTC switch – Output format selection	
	 Binary  2's complement	
S4	CEN switch – Output enable selection	
	 Active output  High impedance output	

## 1.5 Input common mode (CMADC)

The input common mode can be set by the internal reference of the ADC or can be adjusted manually with a potentiometer.

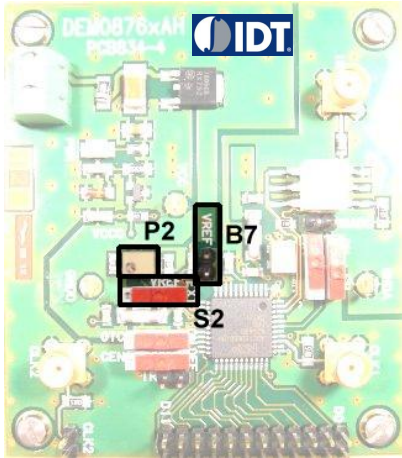


**Table 4. Input common mode voltage adjustment**

Name	Function	View
S1	Switch – Selection between internal and external common mode	
	 Internal common mode  External common mode	
P1	Potentiometer – External common mode adjustment	
B4	CMADC test point – input common mode	

## 1.6 Input full scale (VREF)

The input full scale mode can be set by the internal reference of the ADC or can be adjusted manually with a potentiometer.

Table 5. Input full scale adjustment

Name	Function	View
S2	Ext switch – Selection between internal and external reference voltage	
	 Internal reference	
	 External reference	
P2	VREF potentiometer – External reference voltage adjustment	
B7	VREF test point – VREF reference voltage	



## 2. Example

### 2.1 Setup example

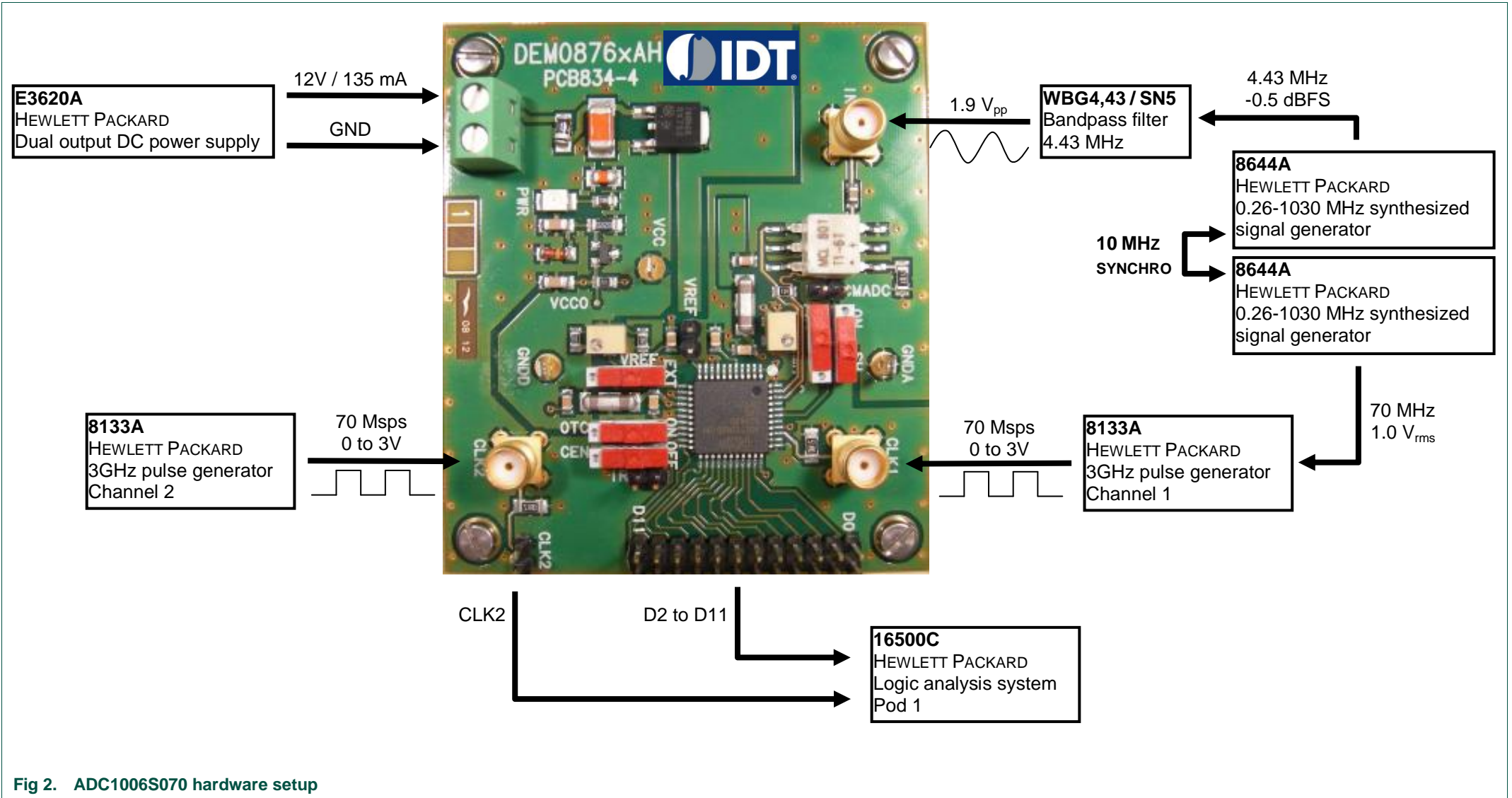


Fig 2. ADC1006S070 hardware setup