

JT 2149 DAF

A compact, mixed-signal (Digital/Analog/Frequency) measurement module



- ✓ Frequency counter up to 128 MHz
- ✓ Frequency generator up to 64 MHz
- ✓ 16 digital I/O Channels,
12 analog input Channels
- ✓ Desktop, plugs into JT 2148
QuadPod transceiver

The JT 2149/DAF is part of the range of JT 2149/xxx series QuadPod plug in modules. The unit is intended as a mixed signal verification module that includes digital IO plus analog and frequency measurement capabilities. The conservative specification means that the unit does not require regular calibration and can be used within test systems indefinitely.

Application

Test systems builders specializing in boundary-scan often add additional circuits (ADCs for example) or even dedicated instruments within the tester interface (or fixture) for auxiliary testing.

Such instruments are used to facilitate measurements of power-supply voltages or other analog (sensor) values. These

separate instruments can be costly and often require a different software interface, resulting in a more cumbersome and time-consuming integration task.

JTAG Technologies JT 2149/DAF provides 'just enough accuracy' for analog measurements that complement the boundary-scan based structural testing that the main DataBlaster offers. The unit fits neatly into any spare slot of the JT 2148 QuadPod transceiver. Multiple units can also be fitted to expand capabilities as required.

Prerequisites

Hardware: JT 37x7/xxx DataBlaster including QuadPod

Software: ProVision, PSA or PIP/*** with JFT

Electrical		DIO	
VDC			
Range	0 - 32 V	Range	1.0 - 3.6 V
Resolution	8 mV (5 digits)	Resolution	0.1 V (input is 5 V tolerant @ 3.6 V)
Accuracy	+/- (0.5% + 24 mV) of display value	Current	-12/12 mA @ 3.3 V
Input impedance	1 MOhm		
Frequency Counter		Frequency Generator	
Range	10 to 128 MHz	Range	0.0596 Hz - 64 MHz
Resolution	8 digits	Resolution	59.6 mHz
Accuracy	100 ppm	Accuracy	100 ppm

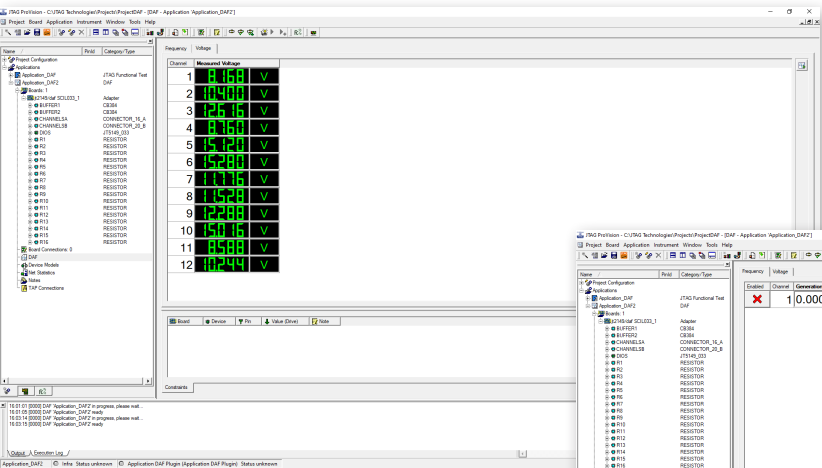


Figure 1 - ProVision screen for voltage measurement array

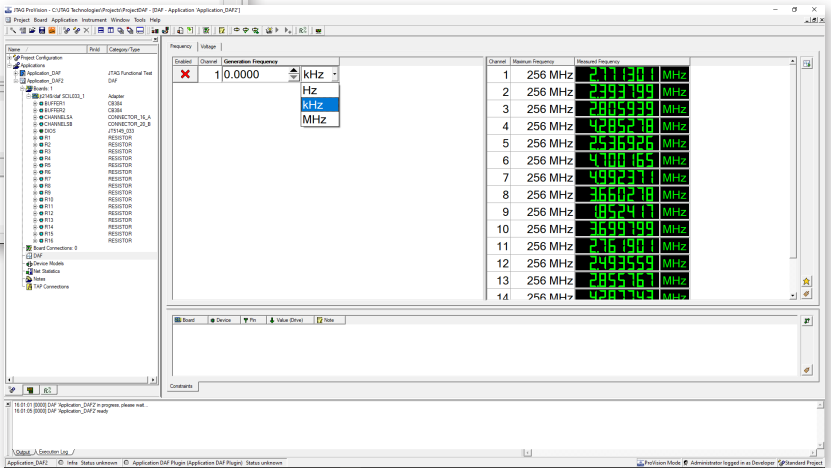


Figure 2 - ProVision screen for frequency measurement array

```

1 #####
2 ## Application: Application_DAF
3 ## Created: 2024-06-24, 11:22:14
4 #####
5
6 ## Imports
7 #####
8 # Write your Imports here.
9
10
11 import jftdaf
12 import jft
13
14 jft.SettAMode(0)
15
16 jftdaf.DAF_Initialize("")
17 jftdaf.DAF_GenerateFrequency(32765534)
18
19 for i in range(1,17):
20     arr = jftdaf.DAF_MeasureFrequency(i)
21
22     if arr != None:
23         frequency = arr[0]
24         displayfreq = arr[1]
25         overflow = arr[2]
26         print("Frequency on Channel " + str(i) + " is " + str(displayfreq))
27
28     if overflow == 0b1:
29         print("Overflow occurred on Channel:", i)
30
31 for i in range(1,13):
32     arr = jftdaf.DAF_MeasureVoltage(i)
33     if arr != None:
34         voltage = arr[0]
35         displayvoltage = arr[1]
36         print("Voltage on Channel " + str(i) + " is " + str(displayvoltage))

```

Figure 3 - ProVision JFT (JTAG Functional Test) screen displaying a code sample for JT 2149/DAF control. This code utilizes a special Python library 'jftdaf'. Note the simple calls required that take frequency and voltage measurements across all channels using for, next loops.

Global Representation

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We are boundary-scan.®