JT 2149/DAF Mixed signal tester module

Measure DIO, analog voltage and frequency in one module

- Compact multi-function module expands analog measurement capabilities in boundary-scan systems
- 16 dual-function digital channels can drive, sense and measure frequency (10Hz - 128MHz)
- 12 analog channels for PSU verification and sensor testing
- Includes 1 clock generator channel programmable to 64 MHz
- Reduces need for additional instruments
- Saves time during test system development
- Supported by ProVision GUI and JFT (Python) script routines
- DataBlaster QuadPod compatible

JT 2149/DAF overview

The JT 2149/DAF is part of the expanding 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.

Applications

Test system 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.

Ordering Information:
JT 2149/DAF Multifunction module.

Prerequisites:
Hardware:
- JT 37x7/xxx DataBlaster including QuadPod
Software:
- ProVision V2.0 or PSA or
- PIP/*** with JFT (CD18 or later release)

Specifications:

VDC:
- Range 0-32 Volts, Resolution 8mV (5 digits),
- Accuracy ± (0.5% + 24mV) of display value
- Input impedance 1MΩ

Frequency counter:
- Range 10Hz - 128MHz, Resolution 8 digits,
- Accuracy 100 ppm

Frequency Generator:
- Range 0.0596 Hz – 64 Mhz, Resolution 59.6 mHz
- Accuracy 100ppm

DIO:
- Range 1.0 - 3.6 Volts, Resolution 0.1 Volts (input is 5V tolerant @ 3.6V) Current -12/12mA @ 3.3V

...We are boundary-scan.
Figure 1 - ProVision screen for voltage measurement array

Figure 2 - ProVision screen for frequency measurement array

Figure 3 - ProVision JFT (JTAG Functional Test) Screen displaying code sample for JT 2149/DAF Control. Code utilizes special Python library ‘jtdaf’. Note simple calls required take frequency and voltage measurements across all channels using for, next loop.

```python
1 # Application Application
2 # Created: 2013-07-16 10:06:35
3
4
5 # Imports
6 import jtdaf
7 import jft
8
9 # Write your Imports here.
10
11 # Set the mode
12 jtdaf.sf.ResetMode(0)
13 jtdaf.sf.SetMode(1)
14
15
16 # Get the arrayangle
17 jtdaf.sf.GetArrayAngle(32765534)
18
19
20 # Loop
21 for i in range(1, 7):
22    ar = jtdaf.sf.MeasureFrequency()
23
24    if ar != None:
25       frequency = ar[0]
26       displayfreq = str(frequency)
27       print("Frequency on Channel " + str(i) + " is " + str(displayfreq))
28
29    if overflow = 0:
30       print("Overflow occurred on Channel", i)
31
32 # Loop
33 for i in range(1, 7):
34    ar = jtdaf.sf.MeasureVoltage()
35
36    if ar != None:
37       voltage = ar[0]
38       displayvoltage = str(voltage)
39       print("Voltage on Channel " + str(i) + " is " + str(displayvoltage))
```

<table>
<thead>
<tr>
<th>Region or country</th>
<th>Telephone</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe &amp; ROW</td>
<td>+31 (0)40 295 0870</td>
<td><a href="mailto:info@jtag.nl">info@jtag.nl</a></td>
</tr>
<tr>
<td>UK &amp; Ireland</td>
<td>+44 (0)1234 831212</td>
<td><a href="mailto:sales@jtag.co.uk">sales@jtag.co.uk</a></td>
</tr>
<tr>
<td>North America</td>
<td>Toll free - 877 FOR JTAG Western US - 949 454 9040</td>
<td><a href="mailto:info@jtag.com">info@jtag.com</a></td>
</tr>
<tr>
<td>China, Malaysia, Singapore, Thailand, Taiwan</td>
<td>+86 (021) 5831 1577</td>
<td><a href="mailto:info@jtag.com.cn">info@jtag.com.cn</a></td>
</tr>
<tr>
<td>Germany</td>
<td>+49 (0)971 6991064</td>
<td><a href="mailto:gernany@jtag.com">gernany@jtag.com</a></td>
</tr>
<tr>
<td>Finland</td>
<td>+358 (0)9 4730 2670</td>
<td><a href="mailto:finland@jtag.com">finland@jtag.com</a></td>
</tr>
<tr>
<td>Sweden</td>
<td>+46 (0)8 754 6200</td>
<td><a href="mailto:sweden@jtag.com">sweden@jtag.com</a></td>
</tr>
</tbody>
</table>

Regional sales offices and agents:
http://www.jtag.com/en/About/How_to_contact_us