



### 860 DSPi RTP Reflector Option

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#### Overview

The 860 DSPi RTP Reflector Option extends the measurement and troubleshooting range of field technicians by offering a simple round-trip VoIP quality test from any RF test point. The option works through communication with the Tektronix DirectQuality active monitoring system, enabling tests to verify RTP communication from the test point to probes placed strategically throughout the cable network.

Real-Time Transport Protocol (RTP) is used to transmit IPTV, Video-on-Demand (VoD), VoIP and other real-time media over IP networks. Tektronix' RTP Loopback test agent accurately simulates these media streams by supporting over 50 different audio and video codecs, including the latest wideband VoIP, HDTV & IPTV standards.

The RTP Reflector Option enables round-trip stream analysis for packet loss, jitter, delay and other IP impairments. R-factor, MOS and other industry-standard service quality metrics are included based on a Tektronix E-model implementation.

The Tektronix DirectQuality server provides a PocketDQ 2.0 application that enables browser based activation of a wide range of tests to verify IP communication characteristics.

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1-800-344-2412 or 317-895-3600  
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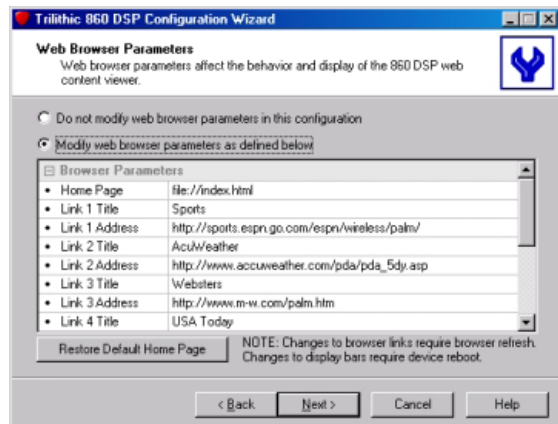
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## 860 DSPi Web Browser Configuration

The links on the 860 DSPi browser homepage can be configured using WorkBench.



The following procedure shows how to configure a link for “PocketDQ” or “RTP Reflector” on the 860 DSPi. The graphic shown to the right is the 860 DSPi Configuration Wizard Window within WorkBench that is used to set web browser parameters.



To configure a link for “RTP Reflector”, perform the following steps;

1. Select the “Modify web browser parameters as defined below” radio button.
2. Choose the link title number that you wish to change, for example, “Link 3 Title” and enter “RTP Reflector”.
3. Choose the “Link 3 Address,” and change the URL to:  
`http://[IP_address]/tektronix/cgi-bin/pocketdq.exe`

**Note:** For [IP\_address] enter either the IP address of the DQ Server, or the name of the server, e.g. dq.trilithic.com, etc.

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## Accessing the PocketDQ Application

After you have configured the 860 DSPi Web Browser using WorkBench, enter the 860 DSPi Web Browser mode and select the RTP Reflector link. The PocketDQ login screen will be displayed.



Upon successful login, the following screen is displayed. This screen enables you to run a test, view previous test results, or retrieve support information.

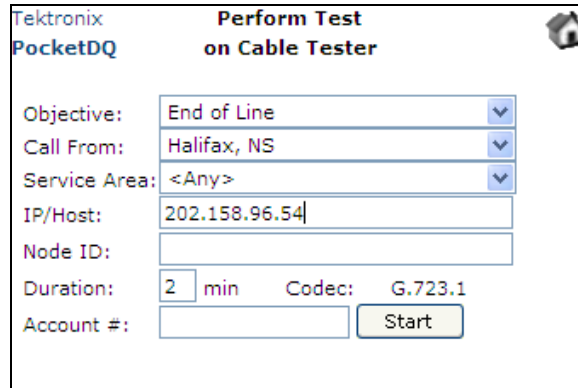


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## Test Procedure

When the user selects Test from the PocketDQ screen shown in the previous sections, the test will start with an initiation screen as shown below:



Tektronix  
PocketDQ

**Perform Test  
on Cable Tester**

Objective: End of Line

Call From: Halifax, NS

Service Area: <Any>

IP/Host: 202.158.96.54

Node ID:

Duration: 2 min Codec: G.723.1

Account #: Start

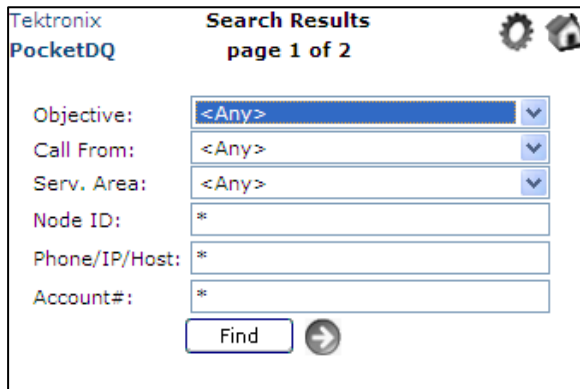
First the user selects Test Objective, Test Origin (Call From), and Service Area. Next the user enters IP Address or Host Name for termination device. The IP address is set automatically when using a Trilithic 860 DSPi. The Test Duration can be set within a range of 1 to 10 minutes. The codec used is configured in the DirectQuality server default settings.

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## Searching for Previously Run Tests

Tests that have been run previously can be found by “searching” and users can use any combination of parameters to search for test results. The search mode entry display example is shown below.



Tektronix  
PocketDQ

**Search Results**  
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Objective:

Call From:

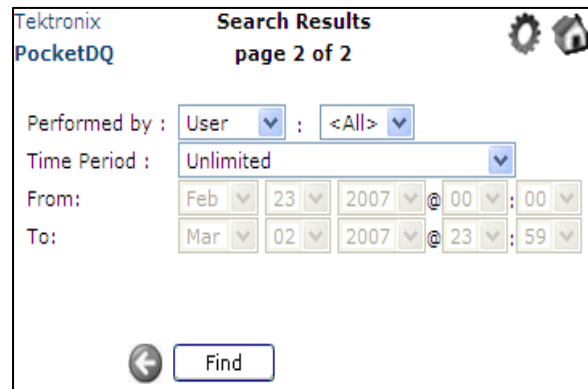
Serv. Area:

Node ID: \*

Phone/IP/Host: \*

Account#: \*

Find



Tektronix  
PocketDQ

**Search Results**  
page 2 of 2

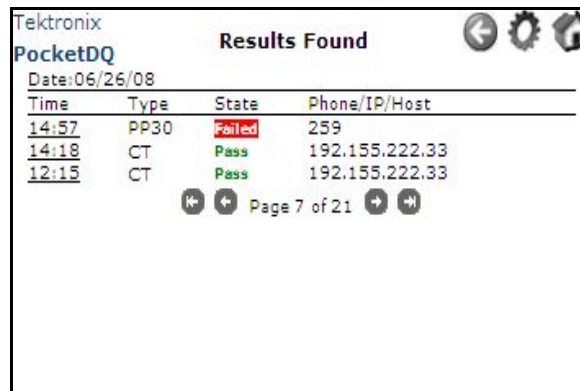
Performed by : User : <All>

Time Period : Unlimited

From: Feb 23 2007 @ 00 : 00

To: Mar 02 2007 @ 23 : 59

Find



Tektronix  
PocketDQ

**Results Found**

Date: 06/26/08




Time	Type	State	Phone/IP/Host
14:57	PP30	Failed	259
14:18	CT	Pass	192.155.222.33
12:15	CT	Pass	192.155.222.33

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Search results are grouped by date, as seen in the above results display. The “State” column provides overall Pass or Fail information. The “Phone/IP” column displays the phone number or IP address of termination.

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Tektronix PocketDQ		<b>Results Found</b>		  
<b>Pass</b>				
Node ID: 619 IP/Host: 10.10.2.10				
Speech Quality:	<b>Pass</b>	RTP Statistics:	<b>Pass</b>	

The RTP Reflector top-level results display shows two results families: Speech Quality and RTP Statistics. Drilling down by selecting the pass/fail parameter provides the following information.

Tektronix PocketDQ		<b>Results Found</b>		  
<b>Speech Quality: Pass</b>				
Node ID: 619 IP/Host: 201.58.4.78				
Cell	CQ MOSr	CQ RFactor	LQ MOSr	LQ RFactor
15:13:33	4.41	93.19	4.41	93.19
<b>Total</b>	<b>4.41</b>	<b>93.19</b>	<b>4.41</b>	<b>93.19</b>

The Speech Quality results include CQ (Conversational Quality) and LQ (Listening Quality) MOS and R-Factor.

Tektronix PocketDQ		<b>Results Found</b>		  	
<b>RTP Statistics: Pass</b>					
Node ID: 619 IP/Host: 10.10.2.10					
Timestamp	Packets	Burst	Jitter	Jitter Buffer	Delay
15:13:33	Pass	Pass	Pass	Pass	Pass
<b>Total</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

The RTP Statistics results include 5 additional results families, each with pass/fail limits. Each of these categories provides additional information accessible by selecting the pass/fail parameter link.

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**Packets Information**

Tektronix PocketDQ		Results Found		
Packets: <b>Pass</b>				
Node ID: <b>619</b> Phone No.: <b>281</b>				
Cell	Loss	Transmission	Out-of-Order	Discard
15:13:33	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>
<b>Total</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

Each of the Packets results provides further detail when the user selects a particular pass/fail parameter link, as follows:

Tektronix PocketDQ		Results Found		
Packet Loss: <b>Pass</b>				
Node ID: <b>619</b> IP/Host: <b>10.10.2.10</b>				
Cell	Avg. (%)	Max. (%)	Min. (%)	Dev. (%)
15:13:33	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Tektronix PocketDQ		Results Found				
Packet Transmission: <b>Pass</b>						
Node ID: <b>619</b> Phone No.: <b>281</b>						
Cell	Bytes Rcvd	Received (pkt)	Sent (pkt)	Lost (pkt)	Out of Order (pkt)	Discarded (pkt)
15:13:33	189600	1185	0	0	0	0
<b>Total</b>	<b>189600</b>	<b>1185</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Tektronix PocketDQ		Results Found		
Packet Out-of-Order: <b>Pass</b>				
Node ID: <b>619</b> IP/Host: <b>10.10.2.10</b>				
Cell	Avg. (%)	Max. (%)	Min. (%)	Dev. (%)
15:13:33	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Tektronix PocketDQ		Results Found		
Packet Discard: <b>Pass</b>				
Node ID: <b>619</b> IP/Host: <b>10.10.2.10</b>				
Cell	Avg. (%)	Max. (%)	Min. (%)	Dev. (%)
15:13:33	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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**Burst Information**

Tektronix PocketDQ		Results Found		
<b>Burst: Pass</b>				
Node ID: <b>619</b> Phone No.: <b>281</b>				
Call	Burst Density	Burst Duration	Gap Density	Gap Duration
15:13:33	Pass	Pass	Pass	Pass
<b>Total</b>	Pass	Pass	Pass	Pass

Each of the Burst results provides further detail when the user selects a particular pass/fail parameter link, as follows:

Tektronix PocketDQ		Results Found		
<b>Burst Density: Pass</b>				
Node ID: <b>619</b> IP/Host: <b>10.10.2.10</b>				
Call	Avg. (%)	Max. (%)	Min. (%)	Dev. (%)
15:13:33	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Tektronix PocketDQ		Results Found		
<b>Burst Duration: Pass</b>				
Node ID: <b>619</b> Phone No.: <b>281</b>				
Call	Max. (%)	Min. (%)		
15:13:33	0	0		
<b>Total</b>	<b>0</b>	<b>0</b>		

Tektronix PocketDQ		Results Found		
<b>Gap Density: Pass</b>				
Node ID: <b>619</b> IP/Host: <b>10.10.2.10</b>				
Call	Avg. (%)	Max. (%)	Min. (%)	Dev. (%)
15:13:33	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

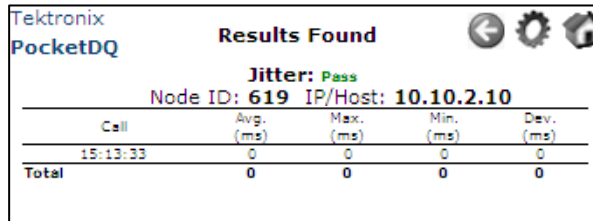
Tektronix PocketDQ		Results Found		
<b>Gap Duration: Pass</b>				
Node ID: <b>619</b> Phone No.: <b>281</b>				
Call	Max. (%)	Min. (%)		
15:13:33	44134	7273		
<b>Total</b>	<b>44134</b>	<b>7273</b>		

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## RTP Statistics Information

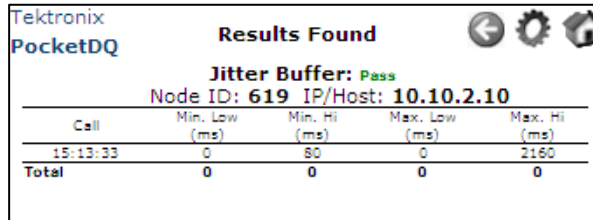
More detail for jitter is provided when the user selects that pass/fail parameter link, as follows:



**Results Found**  
**Jitter: Pass**  
 Node ID: 619 IP/Host: 10.10.2.10

Call	Avg. (ms)	Max. (ms)	Min. (ms)	Dev. (ms)
15:13:33	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

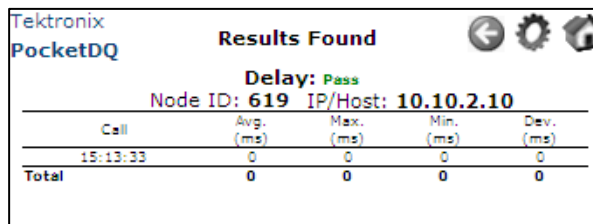
More detail for the jitter buffer is provided when the user selects that pass/fail parameter link, as follows:



**Results Found**  
**Jitter Buffer: Pass**  
 Node ID: 619 IP/Host: 10.10.2.10

Call	Min. Low (ms)	Min. Hi (ms)	Max. Low (ms)	Max. Hi (ms)
15:13:33	0	80	0	2160
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

More detail for the delay is provided when the user selects that pass/fail parameter link, as follows:



**Results Found**  
**Delay: Pass**  
 Node ID: 619 IP/Host: 10.10.2.10

Call	Avg. (ms)	Max. (ms)	Min. (ms)	Dev. (ms)
15:13:33	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Test Data Management

The RTP Reflector measurement information can be saved to a task (work order) folder for inclusion in installation quality assurance test data. This is done by selecting the “save data” button on the initial results display.

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