Honeywell

US Implementation

Use Doc Tool to Query Journals

L5438T

LCN

TotalPlant®

Copyright, Notices, and Trademarks

Revision 05 – August 29, 2001

Honeywell
Industrial Automation and Control
Automation College
2500 W. Union Hills Drive
Phoenix, AZ 85027

1-800-852-3211

Table of Contents

Figures and Tables

References

Publication Title	Binder Title	Binder Number
Documentation Tool	Implementation & Reconfiguration-1	TPS 3030-1

Introduction

Module Overview

Introduction

This module describes how to retrieve specific HM journal data by creating Documentation Tool journal queries.

Before R500, the Documentation Tool could query node owners, but not History Module journal data. In R500, the journal query is added to the Documentation Tool.

Objectives

Given a requirement for HM journal data, create a Doc Tool query to retrieve required data:

- specify values and patterns in conditions to compare against fields in the journals,
- output the report to a file or printer,
- use the FILTER command to further customize the report.

Sample test items

This course module's Criterion Test asks you to demonstrate successful completion of the lab exercise, and answer specific questions related to the Doc Tool journal query function.

Use Doc Tool to Query Journals

Creating a Journal Query

Purpose

Before R500, a user who examined the HM journals had to print and compare separate journals side by side to determine the actual sequence of events. In R500, the Documentation Tool Journal Event Query allows you to obtain a complete list of events, across the journals.

You may specify conditions to limit the event retrieval (such as limiting it to a given time, module, unit, or event type). After retrieving the events, you may use the FILTER command to further customize the report.

The Doc Tool journal query aids in troubleshooting by making the journals easier to read and understand. Improved readability allows the user to more quickly analyze a process upset or system fault.

The Journal Query also makes it easier for the operator to provide shift documentation. Instead of demanding a separate printout of each journal, a single prebuilt journal query can be created for the operator to execute at the end of the shift.

Journals

The following journals can be queried by the R500 Doc Tool:

- unit process journals
  - Process Alarms Journal
  - Operator Process Changes Journal
  - Operator Messages Journal
  - SOE Journal
- system wide journals
  - System Status Change Journal
  - System Error Message Journal
  - System Maintenance Messages Journal
  - Status Notification Journal

Continued on next page

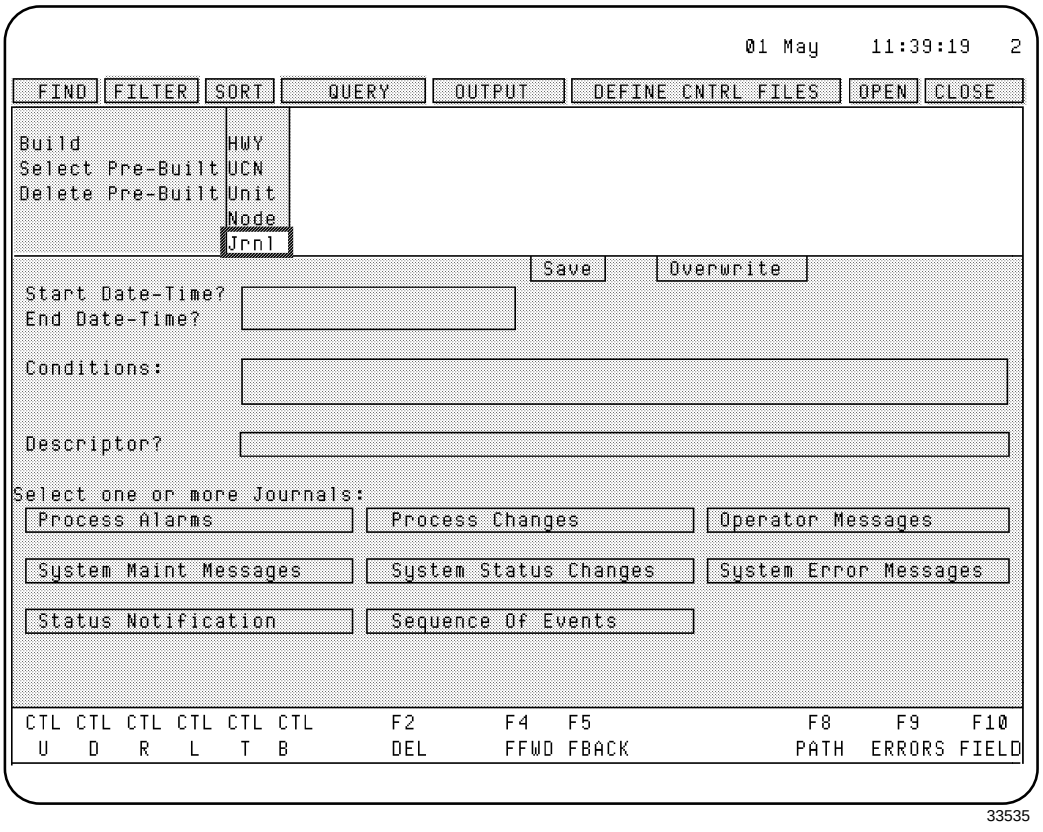
Creating a Journal Query, Continued

Procedure

Figure 1 shows the Journal Query display. Later in the lab exercise, you will perform the following steps to build and execute a journal query.

Step	Action
1	Call up the Doc Tool from the Engineering Main Menu.
2	Select the QUERY target, then select the BUILD target.
3	Select the new JRNL target.
4	Type in the start-date time (if left blank, the default is 24 hours from current time).
5	Type in the end-date time (if left blank, the default is current time).
6	Type in conditions, if desired. (You will see examples later).
7	Type in a descriptor (title) for the query.
8	Select the journals that you want to query.
9	Select SAVE to save your keystrokes.
10	Press [ENTER] to execute the query.

Figure 1 Doc Tool Journal Query Display



Continued on next page

Creating a Journal Query, Continued

Journal query results

Figure 2 shows an example of a report created by the journal query. The [CTL]/[R] keys are used to view the right columns of data that cannot be seen on the initial display. Press [CTL]/[L] to return to the left columns of data. You can use the OUTPUT command to output the report to a file or printer.

Fields

The following fields are included in the journal query report and can be used.

DT - Date Time* ET - Event Type

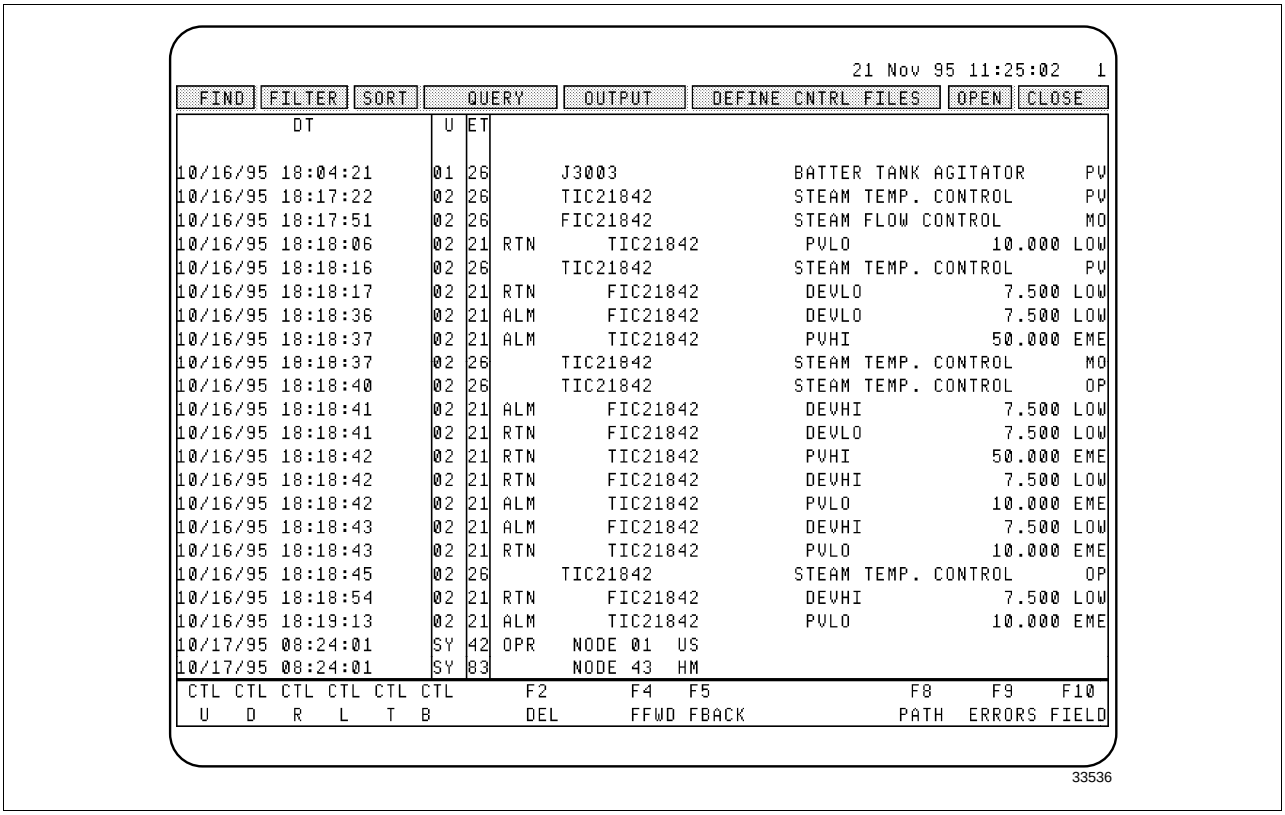
U - Unit ID** GI - General Information

* Journal data retrieved by the Doc Tool is first sorted on the DT field.

** The user-assigned Unit ID appears in process journals, but for system-wide event journals, the unit ID field contains SY.

You can use the field names in conditions to customize your report. In Figure 2, the right column of data is the GI field, although the field name "GI" is not in view.

Figure 2 Example Journal Query Report



Continued on next page

Creating a Journal Query, Continued

Conditions

When the Doc Tool retrieves journal events, it checks those events against Conditions (if any) and filters (removes) events not meeting the Condition criteria.

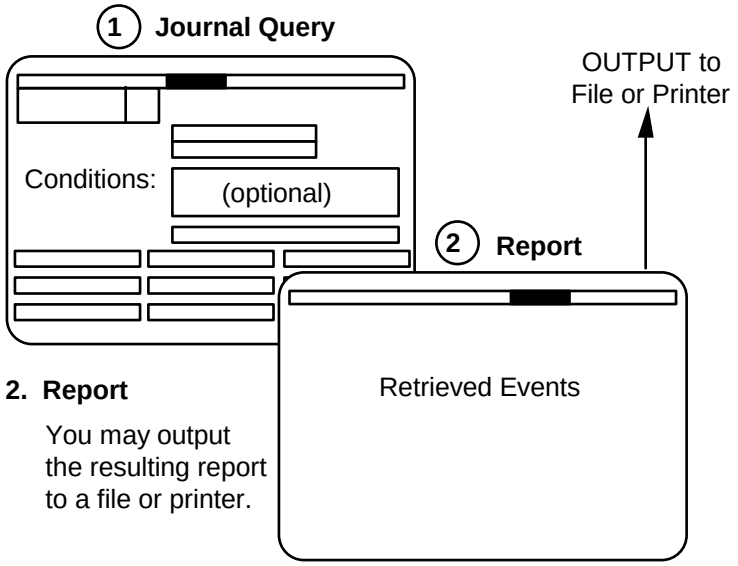
The following Condition example filters events from the report that do not contain the string “US03” in the general information field and the number 60 in the event-type field:

```
GI=“US03” AND ET=60
```

Instead of, or in addition to, filtering events from the *initial* report, you may choose to retrieve events of one or more journals, output the report to a file or printer, then use the FILTER command to create one or more customized reports. This technique allows you to execute the query once (which may be time consuming), then use the FILTER command to manipulate the data as much as you want. Figure 3 illustrates this technique.

Continued on next page

Figure 3 Filtering Technique for Journal Query



1. Journal Query:

Conditions are optional for the initial query.

You may enter a condition to retrieve only the events that match the condition.

2. Report

You may output the resulting report to a file or printer.

3. Filter:

The FILTER command can be used one or more times on the initial data to create several different reports from the same set of retrieved events.

Turn the filter ON and enter a condition.

The events not meeting the condition are removed from the display.

You can OUTPUT the results to a file or printer.

Turn the filter OFF to redisplay the initial set of retrieved events.

4. Filtered Report:

If desired, turn the filter ON again and enter another condition to create a different report, then OUTPUT the results to a file or printer.

33537

Continued on next page

Journal event types

Table 1 lists the journal event types that can be specified in conditions.

Table 1 Journal Event Types (ET)

ET	
Operator Changes	
26	values
28	point/unit/console alarm disable/inhibit, unit assignment
Operator Messages	
23	CL message
25	CL msg confirm
32	CL msg ack
34	CL msg clear
Process Alarms	
21	process alarm
22	sequence event
24	process alarm change event
27	SOE
30	sequence ack
31	alarm ack
33	SOE ack
35	silence alarm
61	lost process events
65	lost process event ack
66	process event recovery
68	journal overflow operator message
System Errors	
0	crash
1	s/w error
2	comm error
3-10	driver error
11	floating point error
12	exception error
14-16	driver error
69	OPT (on process test) error
System Maintenance	
49	maintenance recommendation
50	corrective action
51	maintenance action
52	maintenance clear
53	TAC connect
54	TAC disconnect
55	maintenance ack

Continued on next page

Table 1 Journal Event Types (ET), *continued*

System Status	
ET	
19/20	peripheral error/peripheral recovery
36	LCN
37	hiway
38/39	box
41	off-process system change
42	operator initiated LCN change (including sort, filter, suppress audible, freeze
43	operator initiated hiway change
44	operator initiated box change
45	operator initiated time change
46	state chg notification (physical node state, logical node state, personality chg)
47	slot
48	&ASY restore
56	LCN event ack
57	hiway event ack
58	box event ack
59	peripheral event ack
60	cable status
62	lost peripheral event
63	lost hiway event
64	cable status ack
67	lost peripheral ack
71	lost hiway ack
72	hiway event recovery
73	current hiway status
74	IOP
76	auxiliary status event
77	auxiliary status ack
78	operator UCN change event
79	NIM, PM, APM, HPM, LM, IOP, cable ack
80	HM error handler
81	HM checkpoint control
82	HM operator message system event
83	physical node status change
84	HM startup
87	HM journal manager time change event
88	HM journal manager special event

Continued on next page

Data in each journal

Table 2 lists the potential types of event data in each journal. You may use the data in conditions to customize a query.

Table 2 Types of Journal Event Data

	Unit Process Journals				System-wide Journals		
Data	Process Alarms	Operator Process Change	Operator Message	SOE	System Status Change	System Error Message	System Maint. Message
Date/Time (DT field)	X	X	X	X	X	X	X
Event Type (ET field)	X	X	X	X	X	X	X
Unit (U field)	X	X	X	X			
Unit Process Journals Only (GI field)							
Point Name	X	X	X	X			
Primary Module	X	X					
Alarm Priority	X			X			
Box No.			X	X			
Some Unit and Some System-wide Journals (GI field)							
Console No. or Network ID	X	X	X		X		X
Proc. Net. Slot Type			X	X	X		
Proc. Net. Slot No.			X	X	X		
System-wide Journals Only (GI field)							
Node Type					X	X	X
Node No.					X	X	X
LCN No.						X	
UCN No.					X	X	
Hiway No.					X	X	
Box Type					X	X	
Box Number					X	X	
ORU Type (optimal replaceable unit)						X	X
MR Serial Number (maintenance recommendation)							X

Journal Query Examples

Example 1

Application: Analysis of System Fault

Let's say a node crashed at 05:14:34.

As part of the problem analysis, the user may Query ALL journals around the time of the fault (for example from 05:12 to 05:15).

The Journal Query report would show ALL system changes sorted by time (alarms, SOE events, operator changes, operator messages, system status changes, status notification [aux node] changes, system errors, and maintenance recommendations).

Using the Journal Query report, a post-crash analysis could be performed more quickly and easily.

Example 2

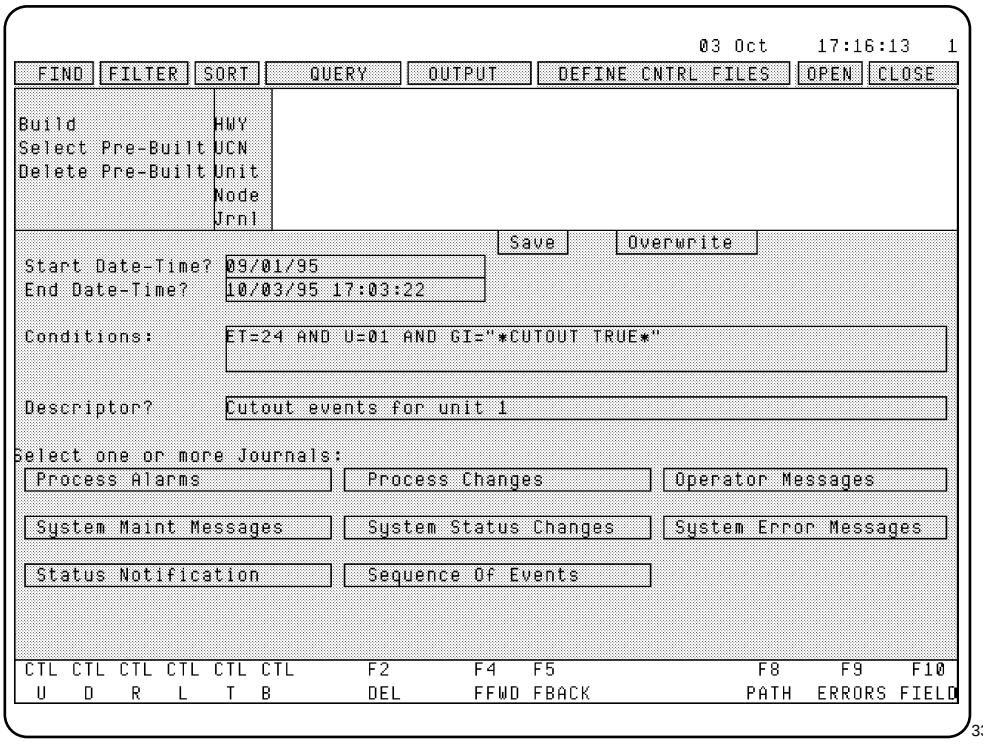
Application: Retrieve Alarm Cutout Events

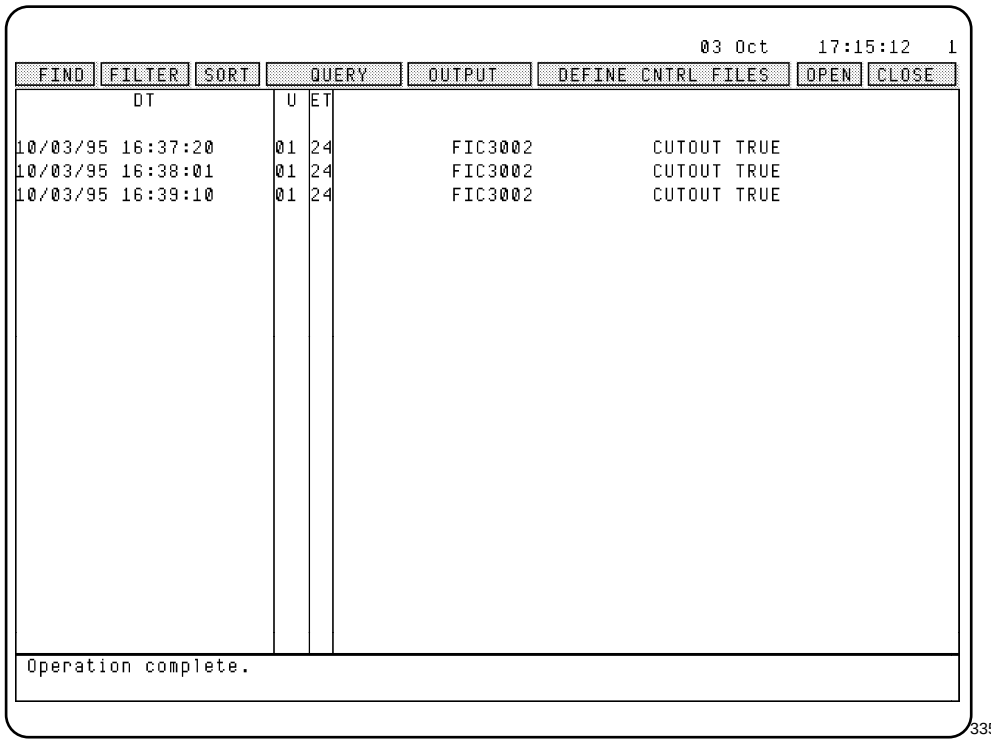
The top of Figure 4 shows a journal query that returns the "cutout events" for unit 01. The bottom of Figure 4 shows the query report.

To reduce the number of alarms annunciated to the operator, you may choose to implement cutout strategies. In such a strategy, alarms for "secondary" points are cutout (not annunciated) if a "primary" point goes into alarm. For example, if a pump fails, the low flow alarms are cutout. Retrieval of the cutout events may be useful when testing and verifying your cutout strategies.

Continued on next page

Figure 4 Journal Query Example—Cutout Events for Unit 01





Continued on next page

Journal Query Examples, Continued

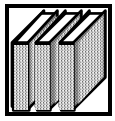
Text editor

The LCN text editor function for the US cannot be used to edit journal files that you have OUTPUT using the Doc Tool. The text editor does not support the record length of the journals.

This is the error message generated when you attempt to edit a file containing journal entries:

`Error During Read—File May Be Corrupted or` **`Wrong Rec Size`**

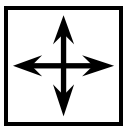
If you want to edit the the file, you must use an interface to the LCN (such as a PC interface).



REFERENCE—For future reference, the following document provides detailed information about the Doc Tool.

Binder Number and Title	Document Title
TPS 3030-1 Implementation/ Startup & Reconfiguration-1	Documentation Tool

Directions



DIRECTIONS—This is the end of the study material for this course module.

At this time, do the lab exercise named “Use Doc Tool to Query Journals” (document number L5438L), located immediately following this course module. Discuss questions concerning the study material or lab exercise with a colleague or your course manager.

After completing the lab exercise, if you are satisfied that you have achieved the objective of this course module, continue with the Student Proficiency Evaluation.

Last Page