GSI Multi-Branch System
Reference Manual

J. Adamczewski-Musch, N. Kurz

November 10, 2017

GSI, Gesellschaft für Schwerionenforschung mbH
Planckstraße 1, D-64291 Darmstadt
Germany
Tel. (0 6159) 71–0
Chapter 1

Preface

GMC_EDIT

MBS Copyright

The MBS software package has been developed at GSI for scientific applications. Any distribution or usage of MBS without permission of GSI is not allowed. To get the permission, please contact at GSI Nikolaus Kurz (tel. 2979 or E-Mail "N.Kurz@gsi.de") or Jörn Adamczewski-Musch (tel. 1337 or E-Mail "J.Adamczewski@gsi.de")

Conventions used in this Document

Examples in this manual show both system output (prompts, messages, and displays) and user input, which are all written in typewriter style. Names and keywords are also in typewriter style. Items to be replaced by actual values are enclosed in <>. The change bars mark changes between MBS and SBS. Registered Trademarks are not explicitly noted.
1.1 MBS Authors and Advisory Service

The authors of MBS and their main fields of development are (phone GSI: + 6159 71 - ):

**J. Adamczewski-Musch**  Linux device drivers and tools, 64bit Linux port, webGUI (Tel.1337)

**R. Barth**  Fastbus SMI library (-1998)

**Y. Du**  Event routines, DECunix port, AIX port (1995-1996)

**H.G. Essel**  Multitasking, CI, message logger, ESONE, GOOSY connections (-2010)

**R. Fritzsche**  TCP library.

**H. Göringer**  Event server, PAW connections (-2012)

**J. Hoffmann**  CVC hardware, trigger (Tel. 2494)

**F. Humbert**  Esone library (1996)

**N. Kurz**  Lynx, setup, readout, collector, multi-branch systems, White Rabbit interface (Tel. 2979)

**S. Linev**  DABC command channels, http server, webGUI (Tel. 1338)


**W. Ott**  Message logger, transport, stream server, taping (-2011)

**D. Schall**  CVC hardware, trigger (left GSI in 1996)

The active persons with advisory services are highlighted with bold face font.

Please visit the official MBS website [http://www-gsi.de/mbs](http://www-gsi.de/mbs)
Chapter 2

MBS Keyword Summary
MBS_keywords

**Keywords**

In the following the MBS command keywords are listed with their occurrence in the commands.

**1810 LECROY**

SET SMI 1810 LECROY

**1872A LECROY**

SET SMI 1872A LECROY

**1872 LECROY**

SET SMI 1872 LECROY

**1875A LECROY**

SET SMI 1875A LECROY

**1875 LECROY**

SET SMI 1875 LECROY

**1881M LECROY**

SET SMI 1881M LECROY
1881_LECROY

SET SMI 1881_LECROY

1882F_LECROY

SET SMI 1882F_LECROY

1885F_LECROY

SET SMI 1885F_LECROY

ACCESS

ACCESS SMI
REMOTE ACCESS

ACQUISITION

START ACQUISITION
STOP ACQUISITION

ARECEIVER

SET ARECEIVER FLUSHTIME
START ARECEIVER
STOP ARECEIVER

ATTACH

ATTACH BASE

BASE
ATTACH BASE
CREATE BASE
DELETE BASE
DETACH BASE
DUMP BASE
RESTORE BASE

BROADCAST

READ SMI BROADCAST
WRITE SMI BROADCAST

CAMAC

CAMAC CNAF
CAMAC FILE

CHANNEL

SET HISTOGRAM CHANNEL

CLEAR

CLEAR DAQ.STATUS COUNTER
CLEAR DAQ.STATUS PROCTAB
CLEAR DAQ.STATUS STATUS
CLEAR HISTOGRAM
CLEAR PIPES
CLEAR POLYGON
CLEAR SMI FASTBUS
CLEAR TRIG_MOD
CLEAR WINDOW

CLIENT

DISCONNECT CLIENT STREAM_SERV
DISCONNECT CLIENT TRANSPORT
CLOSE

CLOSE FILE

CMDREM

START CMDREM
STOP CMDREM

CNAF

CAMAC CNAF
CNAF

COMMANDS

DEFINE COMMANDS

COMMENT

COMMENT

CONDITION

CREATE CONDITION INCLUDE
CREATE CONDITION POLYGON
CREATE CONDITION WINDOW

CONNECT

CONNECT DISPATCHER
CONNECT RFIO
CONNECT TRANSPORT
COUNTER

CLEAR DAQ STATUS COUNTER

CREATE

CREATE BASE
CREATE CONDITION INCLUDE
CREATE CONDITION POLYGON
CREATE CONDITION WINDOW
CREATE FILES
CREATE HISTOGRAM
CREATE POLYGON
CREATE WINDOW

CVC_CAM_IRQ

DISABLE CVC_CAM_IRQ
ENABLE CVC_CAM_IRQ

CVC_IRQ_MASK

DABC

ENABLE DABC

DAQ_STATUS

CLEAR DAQ STATUS COUNTER
CLEAR DAQ STATUS PROCTAB
CLEAR DAQ STATUS STATUS

DEFINE

DEFINE COMMANDS
DELAYED EB

DISABLE DELAYED EB
ENABLE DELAYED EB

DELETE

DELETE BASE
DELETE HISTOGRAM

DEL_EB_COL

DISABLE DEL_EB_COL
ENABLE DEL_EB_COL

DETACH

DETACH BASE

DISABLE

DISABLE CVC_CAM_IRQ
DISABLE DELAYED EB
DISABLE DEL_EB_COL
DISABLE EVENT_COPY
DISABLE HISTOGRAM
DISABLE RECEIVE_DATA
DISABLE TCP
DISABLE TRIG_MOD

DISCONNECT

DISCONNECT CLIENT STREAM_SERV
DISCONNECT CLIENT TRANSPORT
DISCONNECT DISPATCHER
DISCONNECT RFIO
DISCONNECT TRANSPORT
DISMOUNT

DISMOUNT TAPE

DISPATCHER

CONNECT DISPATCHER
DISCONNECT DISPATCHER
SET DISPATCHER
SET VERBOSE DISPATCHER

DR_FLUSHTIME

SET DR_FLUSHTIME

DUMP

DUMP BASE
DUMP HISTOGRAM
DUMP WINDOW

ENABLE

ENABLE CVC_CAM_IRQ
ENABLE DABC
ENABLE DELAYED_EB
ENABLE DEL_EB_COL
ENABLE EVENT_COPY
ENABLE HISTOGRAM
ENABLE IRQ
ENABLE RECEIVE_DATA
ENABLE TCP
ENABLE TRIG_MOD

ENVIRONMENT
ERROR

ON ERROR

ESONE_SERV

SET MAXCLIENTS ESONE_SERV
SET PRINT ESONE_SERV
SET VERBOSE ESONE_SERV

EVENT

TYPE EVENT

EVENT_COPY

DISABLE EVENT_COPY
ENABLE EVENT_COPY

EVENT_SERV

SET EVENT_SERV
SET MAXCLIENTS EVENT_SERV
SET VERBOSE EVENT_SERV
START EVENT_SERV

FASTBUS

CLEAR SMI FASTBUS
INITIALIZE SMI FASTBUS
RELEASE SMI FASTBUS

FILE

CAMAC FILE
CLOSE FILE
OPEN FILE

FILEHEADER

SET FILEHEADER

FILES

CREATE FILES

FLUSHTIME

SET ARECEIVER FLUSHTIME
SET FLUSHTIME
SET RIRECEIVER FLUSHTIME
SET TORECEIVER FLUSHTIME

GLOBAL

SET VERBOSE GLOBAL

HELP

HELP

HISTOGRAM

CLEAR HISTOGRAM
CREATE HISTOGRAM
DELETE HISTOGRAM
DISABLE HISTOGRAM
DUMP HISTOGRAM
ENABLE HISTOGRAM
PROTECT HISTOGRAM
SET HISTOGRAM CHANNEL
SET HISTOGRAM TEXT
SET VERBOSE HISTOGRAM

INCLUDE

CREATE CONDITION INCLUDE

INITIALIZE

INITIALIZE SMI FASTBUS
INITIALIZE TAPE

INPUT

IRQ

ENABLE IRQ

LOAD

LOAD ML_SETUP
LOAD MO_SETUP
LOAD READOUT
LOAD SETUP
LOAD SLAVE_READOUT
LOAD SMI PEDESTAL
LOAD SMI THRESHOLD

LOGREM

START LOGREM
STOP LOGREM
MAXCLIENTS

    SET MAXCLIENTS ESONE_SERV
    SET MAXCLIENTS EVENT_SERV

MESSAGE

    START MESSAGE

ML_SETUP

    LOAD ML_SETUP

MODE

    SET MODE

MODULE

    READ SMI MODULE
    WRITE SMI MODULE

MOUNT

    MOUNT TAPE

MO_SETUP

    LOAD MO_SETUP

NEWS

    NEWS
NODES

NTA

WRITE SMI NTA

ON

ON ERROR

OPEN

OPEN FILE

OUTPUT

START OUTPUT

PEDESTAL

LOAD SMI PEDESTAL
READ SMI PEDESTAL

PIPES

CLEAR PIPES

POLYGON

CLEAR POLYGON
CREATE CONDITION POLYGON
CREATE POLYGON
RESTORE POLYGON
PRINT

    SET PRINT ESONE_SERV

PROCTAB

    CLEAR DAQ_STATUS PROCTAB

PROMPT

    SET VERBOSE PROMPT

PROTECT

    PROTECT HISTOGRAM

PSHELL

    PSHELL

    PSHELL

RATE

READ

    READ SMI BROADCAST
    READ SMI MODULE
    READ SMI PEDESTAL
    READ SMI SEQUENCER
    READ SMI SLAVE
    READ SMI TPSCAN

READOUT

    LOAD READOUT
RECEIVE_DATA

DISABLE RECEIVE_DATA
ENABLE RECEIVE_DATA

RELEASE

RELEASE SMI FASTBUS

REMOTE

REMOTE ACCESS
REMOTE RESET
REMOTE SHOW

REMOVE

REMOVE SEGMENTS

RESET

REMOTE RESET
RESET

RESTART

RESTART SMI SEQUENCER

RESTORE

RESTORE BASE
RESTORE POLYGON
RESTORE WINDOW
RFIO

CONNECT RFIO
DISCONNECT RFIO

RIRECEIVER

SET RIRECEIVER FLUSHTIME
START RIRECEIVER

SEGMENTS

REMOVE SEGMENTS

SEQUENCER

READ SMI SEQUENCER
RESTART SMI SEQUENCER
WRITE SMI SEQUENCER

SET

SET ARECEIVER FLUSHTIME
SET DISPATCHER
SET DR_FLUSHTIME
SET EVENT_SERV
SET FILEHEADER
SET FLUSHTIME
SET HISTOGRAM CHANNEL
SET HISTOGRAM TEXT
SET MAXCLIENTS ESONE_SERV
SET MAXCLIENTS EVENT_SERV
SET MODE
SET PRINT ESONE_SERV
SET RIRECEIVER FLUSHTIME
SET SMI 1810_LECROY
SET SMI 1872A_LECROY
SET SMI 1872_LECROY
SET SMI 1875A_LECROY
SET SMI 1875_LECROY
SET SMI 1881M_LECROY
SET SMI 1881_LECROY
SET SMI 1882F_LECROY
SET SMI 1885F_LECROY
SET STREAM_SERV
SET TASK
SET TORECEIVER FLUSHTIME
SET TRIG_MOD
SET USER VALUE
SET VERBOSE DISPATCHER
SET VERBOSE ESONE_SERV
SET VERBOSE EVENT_SERV
SET VERBOSE GLOBAL
SET VERBOSE HISTOGRAM
SET VERBOSE PROMPT
SET WINDOW
SET XDISPLAY

SETUP

LOAD SETUP

SHOW

REMOTE SHOW
SHOW

SLAVE

READ SMI SLAVE
WRITE SMI SLAVE
XSHELL SLAVE

SLAVE_READOUT
LOAD SLAVE_READOUT

SMI

ACCESS SMI
CLEAR SMI FASTBUS
INITIALIZE SMI FASTBUS
LOAD SMI PEDESTAL
LOAD SMI THRESHOLD
READ SMI BROADCAST
READ SMI MODULE
READ SMI PEDESTAL
READ SMI SEQUENCER
READ SMI SLAVE
READ SMI TPSCAN
RELEASE SMI FASTBUS
RESTART SMI SEQUENCER
SET SMI 1810_LECROY
SET SMI 1872A_LECROY
SET SMI 1872_LECROY
SET SMI 1875A_LECROY
SET SMI 1875_LECROY
SET SMI 1881M_LECROY
SET SMI 1881_LECROY
SET SMI 1882F_LECROY
SET SMI 1885F_LECROY
WRITE SMI BROADCAST
WRITE SMI MODULE
WRITE SMI NTA
WRITE SMI SEQUENCER
WRITE SMI SLAVE

START

START ACQUISITION
START ARECEIVER
START CMDREM
START EVENT_SERV
START LOGREM
START MESSAGE
START OUTPUT
START RIECEIVER
START TASK

STATUS

CLEAR DAQ STATUS STATUS

STOP

STOP ACQUISITION
STOP ARECEIVER
STOP CMDREM
STOP LOGREM
STOP Command keys: STOP TASK

STREAM_SERV

DISCONNECT CLIENT STREAM_SERV
SET STREAM_SERV

TAPE

DISMOUNT TAPE
INITIALIZE TAPE
MOUNT TAPE

TASK

SET TASK
START TASK

TCP

DISABLE TCP
ENABLE TCP
TEXT

SET HISTOGRAM TEXT

THRESHOLD

LOAD SMI THRESHOLD

TORECEIVER

SET TORECEIVER FLUSHTIME

TPSCAN

READ SMI TPSCAN

TRANSPORT

CONNECT TRANSPORT
DISCONNECT CLIENT TRANSPORT
DISCONNECT TRANSPORT

TRIG_MOD

CLEAR TRIG_MOD
DISABLE TRIG_MOD
ENABLE TRIG_MOD
SET TRIG_MOD

TYPE

TYPE EVENT
USER

    SET USER VALUE

VALUE

    SET USER VALUE

VERBOSE

    SET VERBOSE DISPATCHER
    SET VERBOSE ESONE_SERV
    SET VERBOSE EVENT_SERV
    SET VERBOSE GLOBAL
    SET VERBOSE HISTOGRAM
    SET VERBOSE PROMPT

VOID

    VOID

VRA16D16

    VRA16D16

VRA24D16

    VRA24D16

VRA24D32

    VRA24D32
VRA32D16

VRA32D16

VRA32D32

VRA32D32

VWA16D16

VWA16D16

VWA24D16

VWA24D16

VWA24D32

VWA24D32

VWA32D16

VWA32D16

VWA32D32

VWA32D32

WINDOW

CLEAR WINDOW
CREATE CONDITION WINDOW
CREATE WINDOW
DUMP WINDOW
RESTORE WINDOW
SET WINDOW

WRITE

WRITE SMI BROADCAST
WRITE SMI MODULE
WRITE SMI NTA
WRITE SMI SEQUENCER
WRITE SMI SLAVE

XDISPLAY

SET XDISPLAY

XSHELL

XSHELL SLAVE
Chapter 3

MBS Command Summary

**ACCESS SMI**
- name [address]
  - (m_smi) (m_smi) Opens a shared segment to access smi

**ATTACH BASE**
- name
  - (m_histogram) (m_histogram) Attaches existing histogram data base.

**CAMAC CNAF**
- name
  - (m_esone_serv) (m_esone_serv) Executes local CAMAC cnaf.

**CAMAC FILE**
- name
  - (m_esone_serv) (m_eso) Execute

**CLEAR DAQ.STATUS COUNTER**
- (m_util) (m_util) Clears status counters in the global daq status segment

**CLEAR DAQ.STATUS PROCTAB**
- (m_util) (m_util) Clears status counters in the global daq status segment

**CLEAR DAQ.STATUS STATUS**
- (m_util) (m_util) Clears status counters in the global daq status segment

**CLEAR HISTOGRAM**
- name
  - (m_histogram) (m_histogram) hisears hisears histogram.

**CLEAR PIPES**
- (m_read_meb) (m_read_meb) Clears the spipes (qpipes (queue).

**CLEAR POLYGON**
- name
  - (m_collector) (m_collector) lygon colygon condition counters.

**CLEAR SMI FASTBUS**
- (m_smi) (m_smi) all Ses all SMI signal assertion to Fastbus
## MBS Command Summary

<table>
<thead>
<tr>
<th>Command</th>
<th>Module(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEAR TRIG_MOD</td>
<td><code>m_util</code></td>
<td>Resets the moduger module.</td>
</tr>
<tr>
<td>CLEAR WINDOW</td>
<td><code>m_collector</code></td>
<td>Clears condition counters.</td>
</tr>
<tr>
<td>CLOSE FILE</td>
<td><code>tape</code></td>
<td>Closes the file.</td>
</tr>
<tr>
<td>CNAF</td>
<td><code>m_camac</code></td>
<td>Executes the local CAMAC cnaf command.</td>
</tr>
<tr>
<td>COMMENT</td>
<td><code>m_dispatch</code></td>
<td>Writes a line to the log file.</td>
</tr>
<tr>
<td>CONNECT DISPATCHER</td>
<td><code>m_prompt</code></td>
<td>Connects the prompter to the remote dispatcher.</td>
</tr>
<tr>
<td>CONNECT RFIO</td>
<td><code>m_transport</code></td>
<td>Connects to the RFIO archive or disk server.</td>
</tr>
<tr>
<td>CONNECT TRANSPORT</td>
<td><code>m_to</code></td>
<td>Connects to the transport module.</td>
</tr>
<tr>
<td>CREATE BASE</td>
<td><code>m_histogram</code></td>
<td>Creates the histogram database.</td>
</tr>
<tr>
<td>CREATE CONDITION INCLUDE</td>
<td><code>m_collector</code></td>
<td>Creates include files.</td>
</tr>
<tr>
<td>CREATE CONDITION POLYGON</td>
<td><code>m_collector</code></td>
<td>Initializes polygon conditions.</td>
</tr>
<tr>
<td>CREATE CONDITION WINDOW</td>
<td><code>m_collector</code></td>
<td>Initializes polygon conditions.</td>
</tr>
<tr>
<td>CREATE FILES</td>
<td><code>m_histogram</code></td>
<td>Initializes polygon conditions.</td>
</tr>
<tr>
<td>CREATE HISTOGRAM</td>
<td><code>m_histogram</code></td>
<td>Creates the histogram.</td>
</tr>
<tr>
<td>CREATE POLYGON</td>
<td><code>m_collector</code></td>
<td>Creates the histogram.</td>
</tr>
<tr>
<td>CREATE WINDOW</td>
<td><code>m_collector</code></td>
<td>Creates the histogram.</td>
</tr>
</tbody>
</table>
DEFINE COMMANDS  name
    (m_dispatch) (m_dispatch) Defines commands for task.
DELETE BASE  name
    (m_histogram) (m_histogram) Deletes histogram data base.
DELETE HISTOGRAM  name
    (m_histogram) (m_histogram) Deletes histogram.
DETACH BASE  name
    (m_histogram) (m_histogram) Detaches histogram data base.
DISABLE CVC_CAM_IRQ  –
    (m_util) (m_util) Disables CAMAC LAM and VSB interrupts
DISABLE DELAYED_EB  –
    (m_ds) (m_ds delaables delayed event building
DISABLE DEL_EB_COL  –
    (m_collector) (m_cDisablor) disables delayed event building
DISABLE EVENT_COPY  –
    (m_collector) (m_cDisablor) Disables event copy during data acquistion
DISABLE HISTOGRAM  –
    (m_collector) (m_collables Disables histogramming during data acquistion
DISABLE RECEIVE_DATA  –
    (m_dr) (m_collables Disables histogramming during data acquistion
DISABLE TCP  –
    (m_transport) (m_transport) Disables tcon.
DISABLE TRIG_MOD  –
    (m_util) (m_util) Digger s trigger module on trigger bus
DISCONNECT CLIENT STREAM_SERV  –
    (m_stream_serv) (m_stream_serv) Tell client to close socket.
DISCONNECT CLIENT TRANSPORT  –
    (m_transport) (m_transport) Tell client to close socket.
DISCONNECT DISPATCHER  –
    (m_prompt) (m_prompt) Disconnects prompter from remote dispatcher.
DISCONNECT RFIO  –
    (m_transport) (m_transport)romsconnect from RFIO server
DISCONNECT TRANSPORT  name
(m_to) (m_transport) romsconnect from RFIO server

DISMOUNT TAPE  name
(m_transport) (m_transport) Dismounts tape.

DUMP BASE  name
(m_histogram) (m_histogram) Dumps base into file.

DUMP HISTOGRAM  name
(m_histogram) (m_histogram) Dumps base into file.

DUMP WINDOW  file
(m_collector) (m_collector) Dump conditions.

ENABLE CVC_CAM_IRQ  –
(m_util) (m_util) Enables CAMAC LAM and VSB interrupts

ENABLE DABC  –
(m_transport) (m_transport) Set mode to DABC. Transport waits for TCP client.

ENABLE DELAYED_EB  –
(m_ds) (m_transport) Set mode to DABC. Transport waits for TCP client.

ENABLE DEL_EB_COL  –
(m_collector) (m_transport) Set mode to DABC. Transport waits for TCP client.

ENABLE EVENT_COPY  –
(m_collector) (m_collables) Enables event copy during data acquisition

ENABLE HISTOGRAM  basename
(m_collector) (or) (Enactor) Enables histogramming during data acquisition

ENABLE IRQ  –
(m_util) (m_util) Disables trigger mode. IRQ send IRQ or LAM

ENABLE RECEIVE_DATA  –
(m_dr) (bles) Enables data receive of a dr node

ENABLE TCP  –
(m_transport) (m_transport) Enables tcp connection.
ENABLE TRIG_MOD
   –
   (m_util) (m_util) Enables the modulator module on the trigger bus.

HELP
   –
   (m_prompt) (m_prompt) Outputs help information by keywords.

INITIALIZE SMI FASTBUS
   –
   (m_smi) (m_smi) Initializes the FastBus.

INITIALIZE TAPE
   –
   (m_transport) Intransports) Initializes the tape.

LOAD ML_SETUP
   usf_file
   (m_util) (m_util) Loads the setup file of the multi-layer multi-branch daq system.

LOAD MO_SETUP
   usf_file
   (m_util) (m_util) Loads the setup file of the multi-output / collector MBS system.

LOAD READOUT
   usf_file
   (m_read_meb) (m_read_meb) Loads the readout table.

LOAD SETUP
   usf_file
   (m_util) (m_util) Loads the setup file.

LOAD SLAVE_READOUT
   usf_file
   (m_read_cam_slav) (m_util) Loads the setup file.

LOAD SMI PEDESTAL
   usf_file
   (m_smi) (m_util) Loads the setup file.

LOAD SMI THRESHOLD
   usf_file
   (m_smi) (m_util) Loads the setup file.

MOUNT TAPE
   [tape]
   (m_transport) (m_transport) Mounts the tape.

NEWS
   [tape]
   (m_dispatch) (m_dispatch) Outputs news.

ON ERROR
   -CONTINUE -BREAK
   (m_dispatch) (m_dispatch) Sets error handling in procedures.

OPEN FILE
   -CONTINUE -BREAK
   (m_transport) (m_transport) Opens file on tape.

PROTECT HISTOGRAM
   -CONTINUE -BREAK
   (m_histogram) (m_histogram) [Un]protects the histogram from being cleared.
PSHELL
   -CONTINUE -BREAK
   (m_prompt) (m_prompt) Executes shell command line.

READ SMI BROADCAST
   -CONTINUE -BREAK
   (m_smi) (m_smi) Broadcast read from FastBus

READ SMI MODULE
   -CONTINUE -BREAK
   (m_smi) (m_smi) Broadcast read from FastBus

READ SMI PEDESTAL
   -CONTINUE -BREAK
   (m_smi) (m_smi) Broadcast read from FastBus

READ SMI SEQUENCER
   -CONTINUE -BREAK
   (m_smi) (m_smi) Broadcast read from FastBus

READ SMI SLAVE
   (m_smi) (m_smi) Read from an attached slave

READ SMI TPSCAN
   type
   (m_smi) (m_smi) Read from an attached slave

RELEASE SMI FASTBUS
   (m_smi) (m_smi) Release bus mastership

REMOTE ACCESS
   [nodelist]
   (m_prompt) (m_prompt) Grants command access from nodes.

REMOTE RESET
   [node] -ALL
   (m_prompt) (m_prompt) Cleans up remote nodemote nodes. Remote program is m_remote.

REMOTE SHOW
   [node] -ALL
   (m_prompt) (m_prompt) Cleans up remote nodemote nodes. Remote program is m_remote.

REMOVE SEGMENTS
   (m_util) (m_util) Removes critical segments

RESET
   [node] [task] -LOCAL
   (m_remote) (m_remote) Resets remote node. Executed by alias remote.

RESET SMI FASTBUS
   (m_smi) (m_remote) Resets remote node. Executed by alias remote.

RESTART SMI SEQUENCER
   (m_smi) (m_smi) Restart sequencer from an given address
RESTORE BASE –
(m_histogram) (m_histogram) Restores base from file.

RESTORE POLYGON –
(m_collector) (m_histogram) Restores base from file.

RESTORE WINDOW –
(m_collector) (m_histogram) Restores base from file.

SET ARECEIVER FLUSHTIME –
(m_ar) (m_ar) Sets stream flushtime

SET DISPATCHER [node]
(m_prompt) ompt) Sets terminal to remote remote dispatcher.

SET DR_FLUSHTIME time
(m_dr) ompt) Sets terminal to remote remote dispatcher.

SET EVENT_SERV time
(m_event_serv) (m_event_serv) Sets m_event_serv parameters.

SET FILEHEADER time
(m_transport) (m_transport) Spesify fileheader information.

SET FLUSHTIME time
(m_collector) (m_cor) Sets stream flushtime htime

SET HISTOGRAM CHANNEL time
(m_histogram) (m_histogram) Sets channel content of histogram.

SET HISTOGRAM TEXT time
(m_histogram) (m_histogram) Sets lettering text field of histogram.

SET MAXCLIENTS ESONE_SERV time
(m_esone_serv) (m_histogram) Sets lettering text field of histogram.

SET MAXCLIENTS EVENT_SERV time
(m_event_serv) (m_event_serv) Sets maximum number of clients for m_event_serv.

SET MODE mode
(m_to) (m_to) set sorting PARAMETERS:

SET PRINT ESONE_SERV -O
(m_esone_serv) (m_esone_esone_serv) Sets terminal output Eson data for Eson Server.

SET RIRECEIVER FLUSHTIME -O
(m_rirec) (m_rirec) Sets stream flushtime
SET SMI 1810_LECROY -O
   (m_smi) (m_smi) Initialize LeCroy Module 1810

SET SMI 1872A_LECROY sl
   (m_smi) (m_SE : (m_smi) Initialize LeCroy Module 1872A

SET SMI 1872_LECROY sl
   (m_smi) (m_SE : (m_smi) Initialize LeCroy Module 1872A

SET SMI 1875A_LECROY sl
   (m_smi) (m_SE : (m_smi) Initialize LeCroy Module 1875A

SET SMI 1875_LECROY sl
   (m_smi) (m_SE : (m_smi) Initialize LeCroy Module 1875A

SET SMI 1881M_LECROY sl
   (m_smi) (m_smi) Initialize LeCroy Module 1881M

SET SMI 1881_LECROY sl
   (m_smi) (m_smi) Initialize LeCroy Module 1881

SET SMI 1882F_LECROY sl
   (m_smi) (m_SE : (m_smi) Initialize LeCroy Module 1882F

SET SMI 1885F_LECROY sl
   (m_smi) (m_SE : (m_smi) Initialize LeCroy Module 1885F

SET STREAM_SERV sl
   (m_stream_serv) (m_stream_serv) Selects scaledown of streams.

SET TASK task pid -CLEAR
   (m_dispatch) (m_dispaets task id.

SET TORECEIVER FLUSHTIME task pid -CLEAR
   (m_to) ( : (m_to) set stream flush time

SET TRIG_MOD -SLAVE
   (m_util) (m_utts trigger module.

SET USER_VALUE -SLAVE
   (m_util) (m_utts trigger module.

SET VERBOSE DISPATCHER -SLAVE
   (m_dispatch) (m_: (m_dispatch) Sets verbosity for dispatcher.

SET VERBOSE ESONE_SERV -SLAVE
   (m_esone_serv) (m_: (m_dispatch) Sets verbosity for dispatcher.
MBS Command Summary

SET VERBOSE EVENT_SERV  -SLAVE
(m_event_serv) (m_: (m_dispatch) Sets verbosity for dispatcher.

SET VERBOSE GLOBAL        -SLAVE
(m_util) (m_: (m_dispatch) Sets verbosity for dispatcher.

SET VERBOSE HISTOGRAM     -SLAVE
(m_histogram) (m_: (m_dispatch) Sets verbosity for dispatcher.

SET VERBOSE PROMPT        -SLAVE
(m_prompt) (m_: (m_dispatch) Sets verbosity for dispatcher.

SET WINDOW                -SLAVE
(m_collector) (m_: (m_dispatch) Sets verbosity for dispatcher.

SET XDISPLAY              node
(m_prompt) (m_prompt name of remote display. play.

SHOW                      node
(m_remote) (m_remote) Shows remote info. Executed by alias remote.

SHOW ACQUISITION          node
(m_util) (m_util) Shows acquisition.

SHOW BASE                 [name] -FULL
(m_histogram) (m_histograms information about histogram data base.

SHOW COMMANDS             [name] -FULL
(m_dispatch) (m_histograms information about histogram data base.

SHOW CVC_IRQ_MASK         –
(m_histogram) (m_histograms information about histogram data base.

SHOW DISPATCHER           [node]
(m_prompt) (m_histograms information about histogram data base.

SHOW ENVIRONMENT          –
(m_dispatch) atch) Shows environment parameters.

SHOW ESONE_SERV           –
(m_esone_serv) atch) Shows environment parameters.

SHOW EVENT_SERV           –
(m_event_serv) atch) Shows environment parameters.
SHOW FILE [tape]
(m_transport) (m_transport) ile output information.

SHOW HISTOGRAM [tape]
(m_histogram) (m_histogram) Shows histogram info and content.

SHOW INPUT NODES –
(m_to) (m_histogram) Shows histogram info and content.

SHOW MESSAGE –
(m_dispatch) (m_dispatch) status of internal messag message file.

SHOW ML_SETUP –
(m_util) (m_util) ultilayer setup parameterrameters

SHOW MODE –
(m_to) (m_to) show sorting mARAMETERS :

SHOW POLYGON name -DATA
(m_collector) (ctor) Show polygon condit conditions.

SHOW RATE name -DATA
(m_util) (m) shows acquisition rate.

SHOW SETUP –
(m_util) (m_util) Shows setmeters

SHOW STATUS –
(m_util) (m_util) Showsarameters

SHOW STREAM_SERV -CLEAR
(m_stream_serv) (m_util) Shows arameters

SHOW TAPE [tape]
(m_transport) (m_transport) ape information.

SHOW TASK [tape]
(m_dispatch) (m_h) Shows known tasks.

SHOW TRIG_MOD –
(m_util) (m_util) urrent setup of trigger migger module.

SHOW WINDOW name
(m_collector) (m_collectw window conditions.

START ACQUISITION –
(m_util) (m_util) Starts acquisition.
START ARECEIVER –
  (m_ar) (m_les data receive of a ar of a ar node

START CMDREM [port] [host]
  (m_msg_log) (m_les data receive of a ar of a ar node

START EVENT_SERV [port] [host]
  (m_event_serv) (m_event_serv) Starts m_event_serv.

START LOGREM [port]
  (m_msg_log) (m_mstarts log server

START MESSAGE –
  (m_dispatch) (m_dispatchs the message logger.

START OUTPUT –
  (m_to) (m_to) startorting and event output output

START RIRECEIVER –
  (m_rirec) ) Enables data receive of receive of a rirec node

START TASK task [file]
  (m_dispatch) (m_distarts task.

STOP ACQUISITION –
  (m_util) (m_util) Stops acquisition.

STOP ARECEIVER –
  (m_ar) (m_ar)es data receive of a ar n a ar node

STOP CMDREM –
  (m_msg_log) (m_dispatch) Stmand server

STOP LOGREM –

STOP LOGREM –
  (m_to) (m_to) stops timeg and eveand event output

STOP RIRECEIVER –
  (m_rirec) (m_risables data receive of a rirec node

STOP RIRECEIVER –
  (m_dispatch) (m_risables dables data receive of a rirec node

TYPE EVENT –
  (m_transport) (m_transport) Prints events.
TYPE EVENT 
(m_transport) (m_transport) Prints events.

VOID 
(m_daq_rate) (m_daq_rate) place holder, do not execute.

VRA16D16 
(m_vme_serv) (m_vme_serv) VME read A16 D16

VRA24D16 
(m_vme_serv) (m_vme_serv) VME read A24 D16

VRA24D32 
(m_vme_serv) (m_vme_serv) VME read A24 D32

VRA32D16 
(m_vme_serv) (m_vme_serv) VME read A32 D16

VRA32D32 
(m_vme_serv) (m_vme_serv) VME read A32 D32

VWA16D16 
(m_vme_serv) (m_vme_serv) VME write A16 D16

VWA24D16 
(m_vme_serv) (m_vme_serv) VME write A24 D16

VWA24D32 
(m_vme_serv) (m_vme_serv) VME write A24 D32

VWA32D16 
(m_vme_serv) (m_vme_serv) VME write A32 D16

VWA32D32 
(m_vme_serv) (m_vme_serv) VME write A32 D32

WRITE SMI BROADCAST 
(m_smi) (m_smi) Writes to FastBus Module

WRITE SMI MODULE 
(m_smi) (m_smi) Writes to FastBus Module

WRITE SMI NTA sad 
(m_smi) (m_smndary address to ay address to an FastBus slave

WRITE SMI SEQUENCER sad 
(m_smi) PURPOSE : (m_smi) Write SMI sequencer instruction word
WRITE SMI SLAVE  data

(m_smi) PURPOSE : (m_smi) Write SMI sequencer instruction word

XSHHELL  data

(m_dispatch) (m_dispatch) Executes shell command line.
Chapter 4

MBS Command Description
ACCESS

ACCESS SMI

ACCESS SMI name [address]

PURPOSE (m_smi) Opens a shared segment to access smi

PARAMETERS

name Name of shared segment
address Physical address of SMI interface FIFA

Description

Function Enable access to FastBus via SMI. Tries to attach to an existing shared segment named name or creates a new one if name doesn’t exist and address in not 0x0.
Routine f_smi_smem
Task m_smi
ATTACH

ATTACH BASE

ATTACH BASE name

PURPOSE  (m_histogram) Attaches existing histogram data base.

PARAMETERS

name  name of segment

Description

Function  Create or attach histogram data base.
Routine  f_his_cmd_attbas
Task  m_histogram
GSI Multi-Branch System Reference Manual: MBS Command Description

CAMAC

CAMAC CNAF

PURPOSE  (m_esone_serv) Executes local CAMAC cnaf.

PARAMETERS

\[\begin{align*}
\text{c} & \quad \text{crate} \\
\text{n} & \quad \text{station} \\
\text{a} & \quad \text{address} \\
\text{f} & \quad \text{function} \\
\text{d} & \quad \text{data} \\
\text{r} & \quad \text{repetition} \\
\text{-LOG} & \quad \text{write results to log file} \\
\text{-NOPRINT} & \quad \text{no terminal output}
\end{align*}\]

Description

Function  Execute local CAMAC cnaf.

Routine  f_es_cmd_cnaf

Task  m_esone_serv
# CAMAC FILE

## PURPOSE
(m.eso) Execute CAMAC cnaf.

## PARAMETERS
- **filenam**
  - filename with cnaf data:
    - lines with `c n a f d r` like arguments of
  - **CAMAC CNAF COMMAND**
    - **-LOG**
      - write results to log file
    - **-NOPRINT**
      - no terminal output

## Description
- **Function**
  - Execute local CAMAC cnaf.
- **Routine**
  - `f_es_cmd_file`
- **Task**
  - `m_esone_serv`
CLEAR

CLEAR DAQ_STATUS COUNTER

Purpose
(m_util) Clears status counters in the global daq status segment

Parameters
none

Description

Function
Clear status counters in the global daq status segment

Routine
f_ut_clear_daqst

Task
m_util

CLEAR DAQ_STATUS PROCTAB

Parameters
none
Description

Function Clear daq process table in the global daq status segment
Routine f_ut_clear_daqst
Task m_util

CLEAR DAQ STATUS STATUS

P Clears daq (m_util) Clears daq status bits in the global daq status segment

PARAMETERS
none

Description

Function Clear daq status bits in the global daq status segment
Routine f_ut_clear_daqst
Task m_util

CLEAR HISTOGRAM

CLEAR HISTOGRAM name

PURPOSE (m_histoears hisears histogram.

PARAMETERS
name name of histogram, also wildcard.
Description

Function: Clear histogram.
Routine: f_his_cmd_clrhis
Task: m_histogram

CLEAR PIPES

PURPOSE: (m_read_meb) Clears the spipes (qpipes (queue)).

PARAMETERS

Description

Function: Clear the subevent pipes (queue).
Rationale: (not yet implemented)
Routine
Task: m_read_meb

CLEAR POLYGON

PURPOSE: (m_collector) lygon colygon condition counters.

PARAMETERS

name: name of condition
Description

Function          Clear polygon condition.
Routine           f_poly_cmd_c
Task              m_collector

CLEAR SMI FASTBUS

CLEAR SMI FASTBUS

PURPOSE          (m_smes all Ses all SMI signal assertion to Fastbus
PARAMETERS

Description

Function          Removes all SMI signal assertion to Fastbus
Routine           f_smi_fpclbs
Task              m_smi

CLEAR TRIG_MOD

CLEAR TRIG_MOD

PURPOSE          (m_util) Resets ger moduger module.
PARAMETERS
none

Version 6.3 November 10, 2017 49
Description

Function Reset the trigger module.
Routine f_ut_op_trig_mod
Task m_util

CLEAR WINDOW

CLEAR WINDOW name

PURPOSE (m_collector) Clear condition counters.

PARAMETERS

name name of condition

Description

Function Clear window condition.
Routine f_win_cmd_c
Task m_collector
CLOSE

CLOSE FILE

CLOSE FILE [tape]

PURPOSE  (m_transport) Closes file.

PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>tape</td>
<td>Optional tape number</td>
</tr>
</tbody>
</table>

Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Closes file on tape. The acquisition is not stopped!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_</td>
</tr>
<tr>
<td>Task</td>
<td>m_transport</td>
</tr>
</tbody>
</table>
CNAF

CNAF [c n a f] [d r]

PURPOSE
(m.camac) Executes local CAMAC cnaf.

PARAMETERS
  c        crate
  n        station
  a        address
  f        function
  d        data
  r        repetition

Description
  Function    Execute local CAMAC cnaf.
  Routine     f.cnaf
  Task        m.camac
PURPOSE (m_dispatch) Writes line to log file.

PARAMETERS

command Line inserted in log file.
-ERROR Mark as error line
-INFO Mark as info line
-COMMAND Mark as command line

Description

Function Use F_ERROR to write line to log file and terminal.
Example COMM ”Neue Schicht”
Routine f_disp_comment
Task m_dispatch
CONNECT

CONNECT DISPATCHER

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>(m_prompt) Connects prompter to remote dispatcher.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARAMETERS</td>
<td></td>
</tr>
<tr>
<td>node</td>
<td>Name of remote node.</td>
</tr>
<tr>
<td>-ALL</td>
<td>All known nodes</td>
</tr>
</tbody>
</table>

Description

Function: Opens TCP link to remote dispatcher which is started. Message client is started. The remote nodes must be declared as trustedhost and trusteduser in the .rhosts file on users directory.

Routine: f_ifa_new_connect

Task: m_prompt

CONNECT RFIO

<table>
<thead>
<tr>
<th>DISKSERVER -ARCHIVESERVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>PURPOSE</td>
</tr>
<tr>
<td>PARAMETERS</td>
</tr>
<tr>
<td>Node</td>
</tr>
</tbody>
</table>
**Path**  Destination where to be copied: "/lustre/..." => fully qualified path name; if not existing: will be created (see below). "RC" => read cache

**Fraction**  copy each ith file to Path if tape migration fails: ignore Fraction, copy each file.

**MaxFiles**  for dataFS only: 0 : no file number limit > 0 : max no. of files to be written to directory. Files already existing are ignored. If MaxFiles is reached, a new directory will be created. Running number is appended to directory name, initially specified .../xxx => .../xxx last .../xxx => create ...xxx1 last .../xxxi => create ...xxxi j=i+1 When -DIRDATE is given date is appended. (same level as previous dir)

**-DISKSERVER**  Server is private disk server

**-ARCHIVESERVER**  Server is public tape archive server

**-LTSMSERVER**  Server is gateway to LTSM archive node

**-COPYTOPATH**  copy to Path after file written to Write Cache (for high data rates, don’t interfere writing to cache).

**-PARALLEL**  for lustre only: write each data buffer in parallel to Write Cache and to Path (for low data rates, first buffers quickly available in lustre)

**-DIRDATE**  Hades rule for creation of initial/new directories: path name contains time stamp initially specified .../xxx => .../xxxyyddhhmm new => .../xxxyyddhhmm

**Description**

**Function**  Establish connection to archive. Subsequent open/close file commands leave the connection connected. Open command must use -rfio switch. Without -rfio writing to local disk is possible. Connection must be terminated by command DISCONNECT RFIO

**Routine**  f_conn_rfio

**Task**  m_transport
CONNECT TRANSPORT

CONNECT TRANSPORT name

PURPOSE (mct to connect to m_transport)

PARAMETERS

name node name where m_transport runs

Description

Function connect to m_transport

Routine f_to_connect_transport

Task m_to
**CREATE**

**CREATE BASE**

PURPOSE  
(m_histogram) Creates histogram data base.

PARAMETERS  
- name  
  name of segment
- histogram  
  maximum number of histograms
- size  
  size of segment in kByte

Description  
Function  
Create or attach histogram data base.

Routine  
f_his_cmd_crebas

Task  
m_histogram

**CREATE CONDITION INCLUDE**

PURPOSE  
(m_collector) Creates include files.

PARAMETERS  
- name  
  name postfix for files
- -POLYGON  
  write file POLDEF_name.h
- -WINDOWS  
  write file WINDEF_name.h
Description

Function: Creates include files. In these files all names WIN_name or POLY_name from the current window or polygon directory are defined to the index of the condition. At runtime it is checked that the names are defined properly.

Routine: f_col_cmd_crefil

Task: m_collector

CREATE CONDITION POLYGON

PURPOSE: (m_collector) Initialize polygon conditions.

PARAMETERS

polygons: Number of conditions

-NEW: Remove current polygons

Description

Function: Initialize polygon condition.

Routine: f_poly_cmd_i

Task: m_collector

CREATE CONDITION WINDOW

PARAMETERS
windows                      Number of conditions
-NEW                         Remove current windows

Description
Function                    Initialize window condition.
Routine                     f_win_cmd_i
Task                        m_collector

CREATE FILES

(E : (m_lea) Create include files and procedure.

PARAMETERS
  project                    used to name the files.
  -STARTUP                   not used
  -ANALYSIS                  create analysis function
  -CREATE                    not used

Description
Function                    Create three files:
hisdef_project.h            Definition include file
hisini_project.h            Initialization include file
hiscre_project.scom         Procedure to create histograms
f_mbs_anal_project.c        User function when -ANALYSIS was given.
CREATE HISTOGRAM

PURPOSE
(m_histogram) Creates histogram.

PARAMETERS

name
name of histogram

dim
dimension of histogram (dim=1,2)

type
type of histogram 'r' : real or 'i' : integer

chan1
number of channels 1st dimension

lo1
lower limit of histogram 1st dimension

up1
upper limit of histogram 1st dimension

chan2
number of channels 2nd dimension

lo2
lower limit of histogram 2nd dimension

up2
upper limit of histogram 2nd dimension

Description

Function
Create histogram.

Routine
f_his_cmd_crehis

Task
m_histogram

Routine
f_his_cmd_crefil

Task
m_histogram
CREATE POLYGON

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>name</td>
</tr>
<tr>
<td>description</td>
<td>string with description</td>
</tr>
<tr>
<td>datafile</td>
<td>optional file with data points as generated by polygon editor.</td>
</tr>
</tbody>
</table>

Description

- **Function**: Create polygon condition. polygon is closed or set to values from data file.
- **Routine**: f_poly_cmd_n
- **Task**: m_collector

CREATE WINDOW

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>name</td>
</tr>
<tr>
<td>description</td>
<td>string with description (in &quot;&quot;)</td>
</tr>
<tr>
<td>x1,x2,y1,y2</td>
<td>optional values</td>
</tr>
</tbody>
</table>
## Description

**Function**  | Create window condition. Window is closed or set to the specified values.
**Routine**   | f_win_cmd_n
**Task**      | m_collector
DEFINE

DEFINE COMMANDS

PURPOSE         (m_dispatch) Defines commands for task.

PARAMETERS

    task            Task (program) name or * for all tasks
    file            name of command definition file (cdf)
    -LOG            Output definitions

Description

    Function       Tasks, commands and arguments can be defined in text files like /mbs/deve/set/mbscom.cdf. The definitions of such a file can be read by this command. The task which has to execute the commands, must specify functions for each command. This is done by calls to routines f_cmd_cdf_def and f_cmd_set_entry. See command interface description.
    Routine        f_disp_def_cmd
    Task           m_dispatch
DELETE

DELETE BASE

DELETE BASE name

PURPOSE (m_histogram) Deletes histogram data base.

PARAMETERS

name name of segment

Description

Function Delete histogram data base.
Routine f_his_cmd_delbas
Task m_histogram

DELETE HISTOGRAM

DELETE HISTOGRAM name

PURPOSE (m_hiDeletes) Deletes histogram.

PARAMETERS

name name of histogram, also wildcard.
Description

**Function**       Delete histogram in histogram manager.

**Routine**       f_his_cmd_delhis

**Task**          m_histogram
DETACH

DETACH BASE

DETACH BASE name

PURPOSE (m_histogram) Detaches histogram data base.

PARAMETERS

| name   | name of segment |

Description

| Function       | Detach histogram data base. |
| Routine        | f_his_cmd_detbas |
| Task           | m_histogram |
DISABLE

DISABLE CVC_CAM_IRQ

DISABLE CVC_CAM_IRQ

PURPOSE (m_util) Disables CAMAC LAM and VSB interrupts

PARAMETERS none

Description

Function Disable CAMAC LAM and VSB interrupts of the CVC
Routine f_ut_cvc_cam_irq
Task m_util

DISABLE DELAYED_EB

DISABLE DELAYED_EB

PURPOSE (m_ds delaables delayed event building

PARAMETERS
Description

Function  
disables delayed event building in spill
Routine  
f_ds_dis_del_eb
Task  
m_ds

DISABLE DEL_EB_COL

DISABLE DEL_EB_COL

PURPOSE  
(m_cdisabler) disables delayed event building

PARAMETERS

Description

Function  
disables delayed event building in spill
Routine  
f_col_dis_del_eb
Task  
m_collector

DISABLE EVENT_COPY

DISABLE EVENT_COPY

PURPOSE  
(m_cDisabler) Disables event copy during data acquisition

PARAMETERS
Description

Function    disable event copy during data acquisition
Routine     f_col_cmd_dis_evt_copy
Task        m_collector

DISABLE HISTOGRAM

DISABLE HISTOGRAM

PURPOSE (m_collables Disables histogramming during data acquisition

PARAMETERS

basename

Description

Function    disable histogramming during data acquisition
Routine     f_col_cmd_dis_hist
Task        m_collector

DISABLE RECEIVE_DATA

DISABLE RECEIVE_DATA

PURPOSE  (isabler) Disables data receive of a dr node

PARAMETERS
GSI Multi-Branch System Reference Manual: MBS Command Description

Description

Function       Disables data receive of a dr node
Routine        f_dr_cmd_dis_receive_data
Task           m_dr

DISABLE TCP

DISABLE TCP

PURPOSE       (m_transport) Disables tcon.
PARAMETERS

Description

Function       disables any tcp connection from GOOSY transport manager
Routine        f_
Task           m_transport

DISABLE TRIG_MOD

DISABLE TRIG_MOD

PURPOSE       (m_util) Digger s trigger module on trigger bus
PARAMETERS
none
Description

Function  disables trigger module on the trigger bus to take NOT part in a multi
          trigger module environment
Routine    f_ut_op_trig_mod
Task       m_util
DISCONNECT

DISCONNECT CLIENT STREAM_SERV

PURPOSE (m_stream_serv) Tell client to close socket.

PARAMETERS

waitsec After setting the bit to send a termination buffer, wait. This is needed in command procedures to wait for next command, i.e. stopping stream server.

Description

Function Triggers to send a buffer with lEvt=-1 to client. Client then should close socket.

Routine f_str_disconnect

Task m_stream_serv

DISCONNECT CLIENT TRANSPORT

PURPOSE (m_transport) Tell client to close socket.

PARAMETERS

waitsec After setting the bit to send a termination buffer, wait. This is needed in command procedures to wait for next command, i.e. stopping transport.
DISCONNECT

Description

Function: Triggers to send a buffer with l_evt=-1 to client. Client then should close socket.
Routine: f_trh_disconnect
Task: m_transport

DISCONNECT DISPATCHER

PURPOSE: (m_prompt) Disconnects prompter from remote dispatcher.

PARAMETERS

node: Name of remote node.
-ALL: All known nodes
-KILL: Stop dispatcher task

Description

Routine: f_ifa_disconnect
Task: m_prompt

DISCONNECT RFIO

PURPOSE: (m_transport)romsconnect from RFIO server
PARAMETERS

Description

Function  disconnect from RFIO server
Routine    f_disconn_rfio
Task       m_transport

DISCONNECT TRANSPORT

DISCONNECT TRANSPORT name

PURPOSE  (m_to) disconnect from m_transport
PARAMETERS

name     node name where m_transport runs

Description

Function  disconnect from m_transport
Routine    f_to_disco_transport
Task       m_to
DISMOUNT

DISMOUNT TAPE

PURPOSE

(m_transport) Dismounts tape.

PARAMETERS

tape
-UNLOAD

Optional tape number
unloads tape after rewind

Description

Function
Routine
Task
Dismount tape.
f_
m_transport
### DUMP

#### DUMP BASE

<table>
<thead>
<tr>
<th>Description</th>
<th>Dump base into file.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function</td>
<td>f_his_cmd_dmpbas</td>
</tr>
<tr>
<td>Task</td>
<td>m_histogram</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>(m_histogram) Dumps base into file.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARAMETERS</td>
<td></td>
</tr>
<tr>
<td>base</td>
<td>name of segment = name of base</td>
</tr>
<tr>
<td>file</td>
<td>name of file</td>
</tr>
<tr>
<td>-COMPRESS</td>
<td>compress base</td>
</tr>
<tr>
<td>-OVERWRITE</td>
<td>overwrite file</td>
</tr>
</tbody>
</table>

### DUMP HISTOGRAM

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>histogramstogram) Dumps histogram in file or files.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARAMETERS</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td>name of histogram, also wildcard.</td>
</tr>
<tr>
<td>file</td>
<td>file name</td>
</tr>
</tbody>
</table>
-SEPARATE when using wildcard, file name equal histogram name

Description

Function Dump histogram in file or files.
Routine f_his_cmd_dmphis
Task m_histogram

DUMP WINDOW

DUMP WINDOW file

PURPOSE (m_collector) Dump conditions.

PARAMETERS

file File name

Description

Function Dump window conditions to text file.
Routine f_win_cmd_d
Task m_collector
ENABLE

ENABLE CVC_CAM_IRQHandler

PURPOSE (m_util) Enables CAMAC LAM and VSB interrupts

PARAMETERS
none

Description
Function Enable CAMAC LAM and VSB interrupts.
this is normally done during boot time of the CVC
Routine f_ut_cvc_cam_irq
Task m_util

ENABLE DABC

PURPOSE (m_transport) Set mode to DABC. DABC Transport waits for TCP client. Without client blocks. Sends buffers with variable length (type 100).

PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>type</td>
<td>Buffer type, default 100</td>
</tr>
</tbody>
</table>
Description

Function enable_dabc
Task m_transport

ENABLE DELAYED_EB

ENABLE DELAYED_EB

PURPO(m_ds) (m_ds) enables delayed event building
PARAMETERS
lo_mark low water mark in percent
hi_mark high water mark in percent

Description

Function enables delayed event building in spill
Routine f_ds_ena_delEb
Task m_ds

ENABLE DEL_EB_COL

ENABLE DEL_EB_COL

PURPO(m_coll) (m_collector) enables delayed event building
PARAMETERS
lo_mark low water mark in percent
hi_mark high water mark in percent
**Description**

<table>
<thead>
<tr>
<th>Function</th>
<th>enables delayed event building in spill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_col_ena_del_eb</td>
</tr>
<tr>
<td>Task</td>
<td>m_collector</td>
</tr>
</tbody>
</table>

**ENABLE EVENT COPY**

```
ENABLE EVENT_COPY

PURPOSE  (m_collables eEnables event copy during data acquisition)
PARAMETERS
```

**Description**

<table>
<thead>
<tr>
<th>Function</th>
<th>enable event copy during data acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_col_cmd_ena_evt_copy</td>
</tr>
<tr>
<td>Task</td>
<td>m_collector</td>
</tr>
</tbody>
</table>

**ENABLE HISTOGRAM**

```
ENABLE HISTOGRAM basename

PURPOSE  (or) Enactor) Enables histogramming during data acquisition
PARAMETERS

basename    histogram base (segment) name
```
ENABLE

Description
Function     enable histogramming during data acquisition
Routine      f_col_cmd_ena_hist
Task         m_collector

ENABLE IRQ

ENABLE IRQ

PURPOSE   (m_util) Disables trigger module to send IRQ or LAM
PARAMETERS none

Description
Function     disable trigger module to send an IRQ or LAM on occurrence of a trigger
Routine      f_ut_op_trig_mod
Task         m_util

ENABLE RECEIVE_DATA

ENABLE RECEIVE_DATA

PURPOSE   (bles danables data receive of a dr node
PARAMETERS
Description

**Function**
Enables data receive of a dr node

**Routine**
f_dr_cmd_ena_receive_data

**Task**
m_dr

---

**ENABLE TCP**

**PURPOSE**
(m_tranables Enables tcp connection.

**PARAMETERS**
- **-INCLUSIVE**
enable simultaneous output on tape and tcp
- **-EXCLUSIVE**
enable exclusive output on tape or tcp

---

Description

**Function**
enables tcp connection from GOOSY transport manager or other clients. Default is to write both, tape and TCP, if a client connects! To stop writing tape, when a client connects

**EXCLUSIVE must be given.**

**Routine**
f_

**Task**
m_transport

---

**ENABLE TRIG_MOD**

**PURPOSE**
(m_util) Enaber modugger module on trigger bus
PARAMETERS

none

Description

<table>
<thead>
<tr>
<th>Function</th>
<th>enables trigger module on the trigger bus to take part in a multi trigger module environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_ut_op_trig_mod</td>
</tr>
<tr>
<td>Task</td>
<td>m_util</td>
</tr>
</tbody>
</table>
HELP

HELP

HELP

PURPOSE  (m_prompt) Outputs help information by keywords.

PARAMETERS

  key#       Optional keys.
  library    Help library in VAX text format. A .hlp is appended. Default is /mbs/deve/lib/mbs.hlp
  -MBS       Use MBS library.

Description

  Function   Help similar to VMS.
  Routine    f_ifa_help
  Task       m_prompt
INITIALIZE

INITIALIZE SMI FASTBUS

INITIALIZE SMI FASTBUS

PURPOSE

(m_smi) Initializes FastBus

PARAMETERS

Description

Function                Initialize FastBus and SMI.
Routine                 f_smi_fbinit
Task                    m_smi

INITIALIZE TAPE

INITIALIZE TAPE

PURPOSE

Intransport) Initializes tape.

PARAMETERS

label                ANSI label of tape.
tape                 Optional tape number
Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Writes ANSI II label to tape. Any information on the tape is lost.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_</td>
</tr>
<tr>
<td>Task</td>
<td>m_transport</td>
</tr>
</tbody>
</table>
LOAD

LOAD ML_SETUP

LOAD ML_SETUP  usf_file

PURPOSE  (m_util) Loads setup file of multi-layer multi-branch daq system

PARAMETERS

usf_file  User setup file.

Description

Function  load content of mb ml setup file into memory.
Routine   f_ut_load_ml_setup
Task      m_util

LOAD MO_SETUP

LOAD MO_SETUP  usf_file

PURPOSE  (m_util) Loads setup file of multi-output/collector mbs system

PARAMETERS

usf_file  User setup file.
Description

Function      load content of mo setup file into memory.
Routine       f_ut_load_mo_setup
Task          m_util

LOAD READOUT

LOAD READOUT usf_file

PURPOSE       (m_read_meb) readout taskout table.

PARAMETERS

usf_file   Definition file.

Description

Function      Load readout table for master readout into memory.

This must be done at least once but as often
the user wants since the startup of the
readout task. The previous readout table will be
completely overwritten.

See also      Command LOAD_SLAVE_READOUT.
Routine       f_ut_load_readout
Task          m_read_meb
LOAD SETUP

PURPOSE
(m_util) setup filtup file.

PARAMETERS

usf_file User setup file.
crate_nr Optional crate number (slave readout)

Description

Function load content of setup file into memory.

When executing on a slave, the crate number
of the slave must be specified.

Routine f_ut_load_setup
Task m_util

LOAD SLAVE_READOUT

PURPOSE _read_camead_cam_slav) Loads readout table.

PARAMETERS

usf_file Definition file.
Description

Function
Load readout table for slave readout into memory.

This must be done at least once but as often
the user wants since the startup of the
readout task. The previous readout table will be
completely overwritten.

See also
Command LOAD READOUT.

Routine
f_ut_load_readout

Task
m_read_cam_slav

LOAD SMI PEDESTAL

PARAMETERS

slot
FastBus slot

range
Range bit

channel
Module channel

value
Pedestal value

Description

Function
Writes pedestals to pedestal memory of SMI

Routine
f_smi_ldped

Task
m_smi
LOAD SMI THRESHOLD

PURPsmi (m_smi) Write threshold to SMI

PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>Range bit</td>
</tr>
<tr>
<td>value</td>
<td>Threshold value</td>
</tr>
</tbody>
</table>

Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_smi_lthld</td>
</tr>
<tr>
<td>Task</td>
<td>m_smi</td>
</tr>
</tbody>
</table>
MOUNT

MOUNT TAPE

MOUNT TAPE [tape]

PURPOSE (m_transport) Mounts tape.

PARAMETERS

tape Optional tape number

Description

Function Mount tape and skip files up to logical end of tape. The tape must be initialized.

Routine f_

Task m_transport
PURPOSE  (m_dispatch) Outputs news.

PARAMETERS

facility  Optional name of facility, i.e mbs. If not specified, a listing of available facilities is printed. Facilities are files with .inf postfix.

item  Optional number of item to be printed.

path  Optional path to look for facility files. Default is /mbs/deve/lib.

-ALL  If specified, all items are listed, if not, only unseen ones. When called from shell, switch -a lists all items, i.e. news mbs -a.

Description

Function  News similar to VMS.

Routine  f_disp_info

Task  m_dispatch
ON

ON ERROR

ON ERROR -CONTINUE -BREAK

PURPOSE (m_dispatch) Sets error handling in procedures.

PARAMETERS
-CONTINUE continue on error.
-BREAK break on error (default)

Description

Function Set error response in procedures. Valid inside all procedures. If set in a procedure, will be valid in all procedures called from it, but not above.
Routine f_disp_onerror
Task m_dispatch
OPEN

OPEN FILE

AUTO -PROMPT -EDIT -DISK -RFIO -MULTI -FIRST

PURPOSE

(m_transport) Opens file on tape.

PARAMETERS

name
File name. If no extension is given, .lmd is appended.
tape
Optional tape number.
size
File size in MB. The default value in auto mode is 50MB.
-AUTO
Automatic file creation. Names of the form nameXXX.lmd are created with consecutive numbers XXX. The first number is either given with the first=YYY parameter or read from the file filenum.set.

number
Number of automatically generated files.

first
Sets the first file number to start with. If first is not specified, the first file number is taken from the file filenum.set, which contains always the last used file number.

inhead
Reads a GOOSY file header from the file specified. Information from this file is used in the GOOSY file header written to tape except for filename, tape label, and file creation date.

outhead
Writes GOOSY file header data to the specified file.

-PROMPT
Prompts for GOOSY file header data.

-EDIT
This switch can be used together with the inhead command option to edit a GOOSY file header read from a file.

-DISK
Write to local disk file.

-RFIO
Write to RFIO server. Must be connected first with command connect rfio -DISK or -ARCHIVE.
-MULTI
Set this if more than one Transport node is running. filenum.set is used to get first file number in -AUTO mode.

-FIRST
Create new filenum.set file if -MULTI is given. This is necessary if first file number argument should be used.

Description

Function
When the file is opened, incoming buffers are written. Normally one first opens the file and start the acquisition then. Opening and closing files does not affect the acquisition status.

Routine
f_

Task
m_transport
## PROTECT HISTOGRAM

### PURPOSE

(m_histogram) [Un]protect histogram from being cleared.

### PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>name of histogram, also wildcard.</td>
</tr>
<tr>
<td>-UNPROTECT</td>
<td>Enable histogram clearing</td>
</tr>
</tbody>
</table>

### Description

- **Function**: [Un]protect histogram from being cleared.
- **Routine**: f_his_cmd_prohis
- **Task**: m_histogram
## PSHELL

### Purpose
(m_prompt) Executes shell command line.

### Parameters
- **command**: Command to be executed.
- **a#**: Further arguments

### Description
- **Function**: Use function system() to fork a command.
- **Example**: PSH ps -af
- **Routine**: f_ifa_shell
- **Task**: m_prompt
READ

READ SMI BROADCAST

PURPOSE
(m_smi) Broadcast read from FastBus

PARAMETERS
- type
-CONTROL
DATA
-CONTROL
-DATA
 Broadcast type
Read from control space
Read from data space

Description

Function
Routine
Task
Broadcast read from FastBus
f_smi_freadm
m_smi

READ SMI MODULE

PARAMETERS
- gad
- sad
-CONTROL
DATA
Geographical address
Secondary address
Read from control space
Read from data space
Description

Function
Routine
Task

READ SMI PEDESTAL

PARAMETERS

slot
range
channel

Description

Function
Routine
Task

READ SMI SEQUENCER

PARAMETERS

address
Description

**Function**
Read SMI/I sequencer instruction word from address

**Routine**
f_smi_rdsrmrd

**Task**
m_smi

### READ SMI SLAVE

**PURPOSE**
(m_sead from an attacheom an attached slave

**PARAMETERS**

---

Description

**Function**
Performs a read action on FastBus from an attached slave.

**Routine**
f_smi_fpr

**Task**
m_smi

### READ SMI TPSCAN

**PURPOSE**
Performs T-PIN scan s T-PIN scan and returns the pattern back

**PARAMETERS**

- **type**
  Broadcast type
## Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Routine</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performs T-PIN scan and returns the pattern back</td>
<td>f_smi_tpscan</td>
<td>m_smi</td>
</tr>
</tbody>
</table>
RELEASE

RELEASE SMI FASTBUS

PURPOSE  (m_smi) Release bus mastership

PARAMETERS

Description

Function  Release bus mastership by lowering GK
Routine   f_smi_fprel
Task      m_smi
REMOTE

REMOTE ACCESS

REMOTE ACCESS [nodelist]

PURPOSE (m_prompt) Grants command access from nodes.

PARAMETERS

nodelist Nodelist

Description

Function Grant nodes command access by f_pr_send.
Routine f_pr_access
Task m_prompt

REMOTE RESET

REMOTE RESET [node] -ALL

PURPOSE ) Cleans up remote nodemote nodes. Remote program is m_remote.

PARAMETERS

node Reset one node
-ALL Reset all known nodes.
See also RESET command of program remote.
Description

Function

Resets nodes by following steps:
1. Disconnect all dispatchers.
2. Kill all MBS tasks of user (remote only).
   m_dispatch m_col_vme m_collector
   m_esone_serv m_event_serv m_read_cam_slav m_read_neb m_stream_serv
   m_transport m_util m_msg_log
3. Create new msg files (remote only)
4. Clear DAQ status (remote only)
   After RESET REM -ALL the tasks on the local node are still there.
   One must use standalone program
   m_remote "remote reset" to cleanup the local node, too.
   Other remote commands:

remote show
   show remote tasks, message files and netstat.

remote reset
   reset specified nodes.

Routine

f_ifa_reset

Task

m_prompt

REMOTE SHOW

PARAMETERS

node
   Node name or @file (one name per line)

task
   optional task for ps command

-L I CALL
   local node

- TASKS
   show task list

- DA Q
   show DAQ status and message status

-NET
   show net status

See also
   SHOW command of program remote
## Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Shows remote info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_ifa_show_rem</td>
</tr>
<tr>
<td>Task</td>
<td>m_prompt</td>
</tr>
</tbody>
</table>
**REMOVE**

**REMOVE SEGMENTS**

**PURPOSE**
(m_util) Removes critical segments

**PARAMETERS**
none

**Description**

**Function**
remove critical segments

**Routine**
f_ut_remove_segments

**Task**
m_util
RESET

RESET

RESET [node] [task] -LOCAL

PURPOSE  (m_remote) Resets remote node. Executed by alias remote.

PARAMETERS

node  Node name or @file (one name per line)

task  optional task to kill. If speced, only this task is killed. DAQ status and message files are NOT cleared. If not specified, the following tasks are killed. m_dispatch m_col_vme m_collector m_esone_serv m_event_serv m_read_cam_slav m_read_meb m_stream_serv m_transport m_util m_msg_log

-LOCAL  local node

See also  REMOTE RESET command of prompter

Description

Function  Kills MBS tasks, creates new message files and clears DAQ status.

Example  shell> remote reset -l

Routine  f_remote.c

Task  m_remote

RESET SMI FASTBUS

RESET SMI FASTBUS
PURPOSE  smi) Activate RB on Fast on FastBus dataway

PARAMETERS

Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Activate RB on FastBus dataway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_smi_fprbus</td>
</tr>
<tr>
<td>Task</td>
<td>m_smi</td>
</tr>
</tbody>
</table>
RESTART

RESTART SMI SEQUENCER

PURPOSE
(m_smi) Restart sequencer from an given address

PARAMETERS

| address   | Sequencer start address. |

Description

Function
Starts sequencer at given address.

Routine
f_smi_rstseq

Task
m_smi
RESTORE

RESTORE BASE

PURPOSE   (m_histogram) Restores base from file.

PARAMETERS

  base   name of segment = name of base
  file   name of file

-OVERWRITE Overwrite existing base. Size and structure must be the same as current

-NEW    Create new base after deleting old

Description

  Function   Restore base from file.
  Routine    f_his_cmd_resbas
  Task       m_histogram

RESTORE POLYGON

PARAMETERS

  file       File name

-NEW        Remove current polygons, create new.

-OVER      Overwrite current (there must be enough slots)
-APPEND
Append to current (there must be enough slots)

Description

Function
Restore polygon condition.
Routine
f_poly_cmd_r
Task
m_collector

RESTORE WINDOW

PARAMETERS

file
File name

-NEW
Remove current windows, create new.

-OVER
Overwrite current (there must be enough slots)

-APPEND
Append to current (there must be enough slots)

Description

Function
Restore window condition.
Routine
f_win_cmd_r
Task
m_collector
SET

SET ARECEIVER FLUSHTIME

**PURPOSE**
(m_ar) Sets stream flushtime

**PARAMETERS**

- **time**
  - stream flushtime in seconds

**Description**
- **Function**
  - set stream flushtime
- **Routine**
  - f_dr_set_flush_time
- **Task**
  - m_ar

SET DISPATCHER

**PURPOSE**
(ompt) Sets terminal to remote dispatcher.

**PARAMETERS**

- **node**
  - Name of remote node. If omitted use local.
Description

Function  Set prompt to node name, and route terminal IO to/from node through TCP. Note, that for single commands the node can be specified by a node:: prefix, i.e. cvc10::sho task To send commands to all connected nodes, use *::command

Routine  f_ifa_set_host

Task  m_prompt

SET DR_FLUSHTIME

SET DR_FLUSHTIME time

PURPOSE  m_dr) Sets stream flushtime

PARAMETERS

time  stream flushtime in seconds

Description

Function  set stream flushtime

Routine  f_dr_set_flush_time

Task  m_dr

SET EVENT_SERV

SET EVENT_SERV

PURPOSE  (m_eve(m_event_serv) Sets m_event_serv parameters.

PARAMETERS
scale  scaledown streams to analyse. 1: take all
events  maximum number of events to copy from a stream
maxclnt  maximum number of clients
-ALL  take all events per selected stream

Description
Function  Set max events/stream in m_event_serv. This command can be used to reduce the load produced by the event server. The event server processes only the number of events specified per stream and frees the stream.
Function  Set max number of clients on m_event_serv.
Function  Similar to SET EVENTS this command may reduce the load produced by the event server. Specified number of streams is skipped without processing.
Routine  f_ev_cmd_setmaxevt
Task  m_event_serv

SET FILEHEADER

| PURPOSE | (m_transport) Specify fileheader information. |
| PARAMETERS | |
| string | Text according qualifier |
| -EXPERIMENT | Experiment |
| -RUNID | Run id. |
| -COMMENT | Comment line (line=# optionally overwrites line). |
**-LABEL**
Label (default)

**-FILENAME**
Filename (default)

**-USERNAME**
Username (default)

**-CLEAR**
disables this info.

---

**Description**

**Function**
Specify fileheader information for next 'open file' command. This information can be input interactively by 'open file -prompt'.

**Routine**
f_  

**Task**
m_transport

---

**SET FLUSHTIME**

**SET FLUSHTIME time**

**PURPOSE**  
(m_cor) Sets stream flush time htime

**PARAMETERS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>time</td>
<td>stream flushtime in seconds</td>
</tr>
</tbody>
</table>

---

**Description**

**Function**
set stream flush time

**Routine**
f_col_set_flush_time

**Task**
m_collector
SET HISTOGRAM CHANNEL

PURPOSE
(m_histogram) Sets channel content of histogram.

PARAMETERS

name | histogram name
value | value or increment
xchan | x-channel (1st dim)
ychan | y-channel (2nd dim)

-INCREMENT | Add value.

Description

Function | Set or increment channel content of histogram.
Routine  | f_his_cmd_setcha
Task     | m_histogram

SET HISTOGRAM TEXT

PXT -YTXT -CONT

PURPOSE
(m_histogram) Sets lettering text field of histogram.

PARAMETERS

name | histogram name
value | value or increment

-TITLE | Lettering on histogram title
-XTXT  Lettering on x-axis
-YTXT  Lettering on y-axis
-CONT  Lettering on data content

Description
Function  Sets lettering text field of histogram.
Routine    f_his_cmd_settxt
Task       m_histogram

SET MAXCLIENTS ESONE_SERV

PURPOSEPOSE (m_esone_serv) Sets maximum number of clients for m_esone_serv.
PARAMETERS
   maxclnt  maximum number of clients

Description
Function  Set max number of clients on m_esone_serv.
Routine    f_es_cmd_setmaxclnt
Task       m_esone_serv
SET MAXCLIENTS EVENT_SERV

POURPOSE maxclnt

PURPOSE (m_event_serv) Sets maximum number of clients for m_event_serv.

PARAMETERS

maxclnt maximum number of clients

Description

Function Set max number of clients on m_event_serv.

Routine f_ev_cmd_setmaxclnt

Task m_event_serv

SET MODE

SET MODE mode

PURPOSE (m_to) set sorting PARAMETERS :

mode de mode name

Description

Function set sorting mode

Routine f_to_set_mode

Task m_to
SET PRINT ESONE_SERV

SET PRINT ESONE_SERV -O

PURPOSE (m_esone_esone_serv) Sets terminal output Esone data for Esone Server.

PARAMETERS

-ON print C N A F on.
-OFF print C N A F off (default)

Description

Function Set terminal output Esone data for m_esone_serv.
Routine f_es_cmd_setprint
Task m_esone_serv

SET RIRECEIVER FLUSHTIME

SET RIRECEIVER FLUSHTIME

PURPOSE ( : (m_rirec) Sets stream flushtime

PARAMETERS

time stream flushtime in seconds

Description

Function set stream flushtime
Routine f_dr_set_flush_time
Task m_rirec
SET SMI 1810_LECROY

sr4

PURPOSE (m_smi) Initialize LeCroy Module 1810

PARAMETERS

slot FastBus slot of Module

csr1 Register value
dsr0 Register value
dsr1 Register value
dsr2 Register value
dsr3 Register value
dsr4 Register value

Description

Function Initialize LeCroy CAT Module 1810
Routine f_smi_lecroy1810
Task m_smi

SET SMI 1872A_LECROY

PURPOSE (m_SE : (m_smi) Initialize LeCroy Module 1872A

PARAMETERS

slot FastBus slot of Module
csr0  Register value
csr1  Register value

Description

Function  Ininitialize LeCroy TDC Module 1872A
Routine  f_smi_lecroy1872A
Task  m_smi

SET SMI 1872_LECROY

PARAMETERS

slot  FastBus slot of Module
csr0  Register value
csr1  Register value

Description

Function  Ininitialize LeCroy TDC Module 1872
Routine  f_smi_lecroy1872
Task  m_smi
SET SMI 1875A_LECROY

SET SMI 1875A_LECROY sl

PURPOSE  (m_SE : (m_smi) Initialize LeCroy Module 1875A

PARAMETERS

slot  FastBus slot of Module
csr0  Register value
csr1  Register value

Description

Function  Ininitialize LeCroy TDC Module 1875A
Routine  f_smi_lecroy1875A
Task  m_smi

SET SMI 1875_LECROY

PARAMETERS

slot  FastBus slot of Module
csr0  Register value
csr1  Register value
Description

**Function**  
Ininitialize LeCroy TDC Module 1875  

**Routine**  
f_smi_lecroy1875  

**Task**  
m_smi

### SET SMI 1881M_LECROY

**PURPOSE**  
(m_smi) Initialize LeCroy Module 1881M  

**PARAMETERS**

- **slot**  
FastBus slot of Module  
- **csr0**  
Register value  
- **csr1**  
Register value  
- **csr3**  
Register value  
- **csr0**  
Register value  
- **threshold**  
Threshold

Description

**Function**  
Ininitialize LeCroy QDC Module 1881M  

**Routine**  
f_smi_lecroy1881M  

**Task**  
m_smi
SET SMI 1881_LECROY

threshold

PURPOSE  (m_smi) Initialize LeCroy Module 1881

PARAMETERS

slot  FastBus slot of Module
csr0  Register value
csr1  Register value
csr3  Register value
csr0  Register value
threshold  Threshold

Description

Function  Ininitialize LeCroy QDC Module 1881
Routine  f_smi_lecroy1881
Task  m_smi

SET SMI 1882F_LECROY

SET SMI 1882F_LECROY sl

PURPOSE  (m_SE : (m_smi) Initialize LeCroy Module 1882F

PARAMETERS

slot  FastBus slot of Module
csr0  Register value
**csr1**

**Description**

**Function**

Ininitialize LeCroy QDC Module 1882F

**Routine**

f_smi_lecroy1882F

**Task**

m_smi

---

**SET SMI 1885F_LECROY**

**SET SMI 1885F_LECROY sl**

**PURPOSE**

(m_SE : (m_smi) Initialize LeCroy Module 1885F

**PARAMETERS**

- **slot**
  FastBus slot of Module

- **csr0**
  Register value

- **csr1**
  Register value

**Description**

**Function**

Ininitialize LeCroy QDC Module 1885F

**Routine**

f_smi_lecroy1885F

**Task**

m_smi
SET STREAM_SERV

PAR

PURPOSE  
(m_stream_serv) Selects scaledown of streams.

PARAMETERS

scale  
scaledown streams to client. 1: send all, when requested. Default after startup is 2!

-[NO]SYNC  
synchronus mode: send all scaled, wait for request.

-[NO]KEEP  
Keep streams when scale=1 and when there are > 3 free streams.

-[SCALE]_KEEP  
Keep scaled down streams when there are > 3 free streams.

-CLEAR  
Clear counters.

REMARKS  
Mode after startup: SET STREAM 2 -NOKEEP -NOSYNC

Description

Function  
This command may reduce the load produced by the stream server. Specified number (scale) of streams is skipped without processing. There are several strategies to avoid the problem that between spills all streams are passed, and the clients do not get any more streams, even if both, client and mbs, are idle. The general mechanism is that the server checks if there are enough (3) free streams. If yes it yields and gives the client the chance to request the stream. Between spills the client would then get all streams, but also, if the streams are always free (slow data rate). This behavior is modified in two variants: When -KEEP is used, free streams are only checked, if scale=1. Otherwise no streams are kept and the client will not get streams between spills. When -SCALE is used, for any nth stream the number of free streams is checked. This is a compromise to give the client the chance to get streams between spills, but still use scaling for not slowing down the acquisition. Which method is the best depends very much on the special situation. One should play with the parameters to get the desired behavior (transfer rate against DAQ slow down). The default mode after startup is SET STREAM 2 -NOKEEP -NOSYNC
REMARK -SYNC switches off any keep mechanism.

NOTE Arguments and switches not specified are not changed.

Routine f_str_setstr
Task m_stream_serv

SET TASK

SET TASK task pid -CLEAR

PURPOSE (m_dispaets task id.

PARAMETERS ETHERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>task</td>
<td>Task (program) name</td>
</tr>
<tr>
<td>pid</td>
<td>pid of task. Normally tasks write their pid in s_daqst control structure and m_dispatch reads it from there. If not, SET TASK can be used to set the pid which is used for command channels.</td>
</tr>
<tr>
<td>-CLEAR</td>
<td>Removes tasks from the command list which are marked not active in the daq status table. NOTE: This qualifier MUST NOT given as long as there are tasks starting! It should be used when tasks abort abnormally.</td>
</tr>
</tbody>
</table>

Description

Function This command is not needed under normal conditions. It could be used, if the task is known to the dispatcher but is started elsewhere. Then its pid can be set in the dispatcher and the task accepts command from dispatcher. The task MUST NOT, however, stopped by STOP TASK command.

Routine f_disp_set_tsk
Task m_dispatch
SET TORECEIVER FLUSHTIME

PURPOSE
(m_to) set stream flush time

PARAMETERS

time flush time in seconds, 0 = no flushing

Description

Function set stream flush time
Routine f_to_set_flush_time
Task m_to

SET TRIG_MOD

SET TRIG_MOD -SLAVE

PURPOSE (m_utts trigger module.

PARAMETERS

-SLAVE Trigger module is set to slave.
-MULTI Master Trigger module is part of a system
which utilizes the trigger bus

Description

Function Set the trigger module parameters.
Routine f_ut_op_trig_mod
Task m_util
SET USER VALUE

PARAMETERS

- **index**: 0..15: index in array.
- **value**: value array: n or (n1,n2,...)
- **-clear**: clear all values first
- **-show**: show all values

Description
- **Function**: Set user values in daqst.
- **Routine**: f_ut_set_user_val
- **Task**: m_util

SET VERBOSE DISPATCHER

PURPOSE

(m_: (m_dispatch) Sets verbosity for dispatcher.

PARAMETERS

- **-ON**: verbosity on.
- **-OFF**: verbosity off (default)
Description

Function       Set verbosity of messages for dispatcher.
Routine        f_disp_verbose
Task           m_dispatch

SET VERBOSE ESONE_SERV

PARAMETERS
-ON           verbosity on.
-OFF          verbosity off (default)

Description

Function       Set verbosity of messages for m_esone_serv.
Routine        f_es_cmd_setverb
Task           m_esone_serv

SET VERBOSE EVENT_SERV

PARAMETERS
-ON           verbosity on.
-OFF          verbosity off (default)
Description

Function  Set verbosity of messages for m_event_serv.
Routine    f_ev_cmd_setverb
Task       m_event_serv

SET VERBOSE GLOBAL

PARAMETERS

-ON        verbosity on.
-OFF       verbosity off (default)
-NEUTRAL   verbosity is like set in specific task

Description

Function  Set verbosity of all tasks
Routine    f_ut_set_gleob_verbos
Task       m_util

SET VERBOSE HISTOGRAM

PARAMETERS

-ON        verbosity on.
-OFF       verbosity off (default)
Description

Function Set verbosity of messages for m_histogram.
Routine f_his_cmd_setverb
Task m_histogram

SET VERBOSE PROMPT

PARAMETERS
-ON verbosity on.
-OFF verbosity off (default)

Description

Function Set verbosity of messages for m_prompt.
Routine f_pr_verbose
Task m_prompt

SET WINDOW

PURPO (m_collector) Set limit limits of window condition.

PARAMETERS
name name of condition
x1,x2,y1,y2 values
-CURSOR Take values from the last cursor input
### Description

**Function**  
Set limits of window condition.

**Routine**  
f_win_cmd_s

**Task**  
m_collector

### SET XDISPLAY

<table>
<thead>
<tr>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>SET XDISPLAY node</td>
</tr>
</tbody>
</table>

**PURPOSE**  
(m_prompt name of remote display. play.

**PARAMETERS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>node</td>
<td>Node where a remote display runs.</td>
</tr>
</tbody>
</table>

### Description

**Function**  
Set name of remote display.

**Routine**  
f_pr_set_disp

**Task**  
m_prompt
PURPOSE
(m_remote) Shows remote info. Executed by alias remote.

PARAMETERS

node                     Node name or @file (one name per line)
task                     optional task for ps command
-LOCAL                   local node
-TASKS                   show task list
-DAQ                     show DAQ status and message status
-NET                     show net status
See also                 REMOTE SHOW command of prompter

Description

Function                 Shows remote info.
Example                  shell> remote show -l
Routine                  f_remote.s
Task                     m_remote
SHOW ACQUISITION

PUOG

PURPOSE  (m_util) Shows acquisition.

PARAMETERS

seconds  wait n seconds to show rates (def=1).

-SETUP  Show setup

-CRATES  Show crates

-SERVER  Show data transfers

-RATE  Show data rates

-LOG  write output also to log file

Description

Function  Show acquisition. When no switch is given, all are output.

Routine  f_ut_show_acq

Task  m_util

SHOW BASE

SHOW BASE [name] -FULL

PURPOSE  (m_histohows information about hibout histogram data base.

PARAMETERS

name  name of segment
Description

Function       Show information about histogram data base.
Routine        f_his_cmd_shobas
Task           m_histogram

SHOW COMMANDS

Description

Function       Show all known commands (including the commands of inactive tasks by -ALL).
Routine        f_disp_sho_cmd
Task           m_dispatch

SHOW CVC_IRQ_MASK

Description

PURPOSE       (m_dispatch) Shows knowns known commands.
PARAMETERS

  task          Optional task name to show commands
  -FULL         Commands with arguments.
  -ALL          All commands with arguments

PURPOSE       til) Reads irq mask of thk of the CVC irq controller
GSI Multi-Branch System Reference Manual: MBS Command Description

PARAMETERS

none

Description

Function  Read irq mask of the CVC irq controller
Routine   f_ut_cvc_cam_irq
Task      m_util

SHOW DISPATCHER

SHOW DISPATCHER [node]

PURPOSE  (node) Shows connection sections to remote dispatchers.

PARAMETERS

node  Name of remote node.

Description

Function  Show connections to remote dispatchers.
Routine   f_ifa_show_connect
Task      m_prompt

SHOW ENVIRONMENT

SHOW ENVIRONMENT

PURPOSE  (node) Shows environment parameters.
### SHOW PARAMETERS

**Description**

<table>
<thead>
<tr>
<th>Function</th>
<th>Show environment parameters of dispatcher.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_disp_sho_env</td>
</tr>
<tr>
<td>Task</td>
<td>m_dispatch</td>
</tr>
</tbody>
</table>

### SHOW ESONE_SERV

**PARAMETERS**

- **-FULL**  
  full output
- **-LOG**  
  output to log file
- **-CLIENT**  
  sho status of each client

**Description**

<table>
<thead>
<tr>
<th>Function</th>
<th>Show status of m_event_serv.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_es_cmd_showsts</td>
</tr>
<tr>
<td>Task</td>
<td>m_esone_serv</td>
</tr>
</tbody>
</table>

### SHOW EVENT_SERV

**PARAMETERS**
-FULL full output
-LOG output to log file
-CLIENT show client info

Description
Function Show status of m_event_serv.
Routine f_ev_cmd_showsts
Task m_event_serv

SHOW FILE

SHOW FILE [tape]

PURPOSE (m_transport) file output information.

PARAMETERS

tape Optional tape number

Description
Function Shows current tape device, current tape label, file name and number of kBytes written already to tape and/or file.
Routine f_show_tape
Task m_transport
SHOW HISTOGRAM

PURPOSE (m_histogram) Shows histogram info and content.

PARAMETERS

- name name of histogram, also wildcard.
- -DATA show histogram data
- -FULL show full histogram parameters

Description

Function Show histogram info and content.
Routine f_his_cmd_shohis
Task m_histogram

SHOW INPUT NODES

PURPOSE ) show input nodes connected via tcp sockets

PARAMETERS

Description

Function show connected input nodes
Routine f_to_show_input_nodes
Task m_to
SHOW MESSAGE

PURPOSE
(m_dispatch) status of internal message file.

PARAMETERS

Description
Function
There are two message files: One for commands and one for messages. These files are used for intertask communication.

Routine
f_disp_sho_mes

Task
m_dispatch

SHOW ML_SET UP

PURPOSE
(m_util) util layer setup parameters

PARAMETERS
none

Description
Function
parameters from memory

Routine
f_ut_print_ml_setup

Task
m_util
### SHOW MODE

**SHOW MODE**

**PURPOSE**  
(m_to) show sorting parameters:

**Function**  
show sorting mode

**Routine**  
f_to_show_mode

**Task**  
m_to

### SHOW POLYGON

**SHOW POLYGON name -DATA**

**PURPOSE**  
(ctor) Show polygon condition conditions.

**PARAMETERS**

| name   | name of condition |

**Description**

**Function**  
Show polygon conditions.

**Routine**  
f_poly_cmd_p

**Task**  
m_collector

### SHOW RATE

**SHOW RATE**

**PURPOSE**  
(m_shows acquisition rate.
ate.

PARAMETERS

seconds  If 0, show counters. If > 0, wait n seconds and show rates. Also sets interval for rate program.

-OFF     switches rate program off

-ON      switches rate program on

Description

Function  Show counters and rates.
Routine   f_ut_rate
Task      m_util

SHOW SETUP

PURPOSE           (m_util) Shows setmeters
PARAMETERS       S
none

Description

Function  SHOW SETUP parameters from memory
Routine   f_ut_print_setup
Task      m_util
### SHOW STATUS

**PURPOSE**: (m_util) Shows parameters  
**PARAMETERS**: TERS : none

**Description**  
**Function**: daqst parameters from memory  
**Routine**: f_ut_print_daqst  
**Task**: m_util

### SHOW STREAM_SERV

**PURPOSE**(m_stream_serv) Shows modes, modes and counters.  
**PARAMETERS**  
- **-CLEAR**: Clear counters.

**Description**  
**Function**: This command shows counters and modes of the stream server. The counters are incremented only if a client is connected.  
**Routine**: f_str_shostr  
**Task**: m_stream_serv
SHOW TAPE

SHOW TAPE [tape]

PURPOSE (m_transport) tape information.

PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>tape</td>
<td>Optional tape number</td>
</tr>
</tbody>
</table>

Description

Function Shows current tape device, current tape label, file name and number of kBytes written already to tape.

Routine f_show_tape

Task m_transport

SHOW TASK

SHOW TASK

PURPOSE (m_h) Shows known tasks.

PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>task</td>
<td>Optional task (program) name. When specified, show commands of this task.</td>
</tr>
<tr>
<td>-FULL</td>
<td>Show commands with arguments</td>
</tr>
<tr>
<td>-ALL</td>
<td>Show also inactive tasks</td>
</tr>
</tbody>
</table>
Description

Function Outputs list of known tasks. When the task is marked "running" it accepts commands and could be terminated by command STOP TASK. Otherwise it is not started or runs "detached", i.e. does not execute commands.

Routine f_disp_sho_tsk

Task m_dispatch

SHOW TRIG_MOD

PURPOSE (m_util) current setup of trigger migger module.

PARAMETERS
none

Description

Function returns current setup of trigger module.

Routine f_ut_op_trig_mod

Task m_util

SHOW WINDOW

PURPOSE (m_collectw window conditions.

PAs.
PARAMETERS

name  name of condition

Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Show window conditions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_win_cmd_p</td>
</tr>
<tr>
<td>Task</td>
<td>m_collector</td>
</tr>
</tbody>
</table>
START

START ACQUISITION

PURPOSE

(m_util) Starts acquisition.

PARAMETERS

xxx

Description

Function

This command assumes that the trigger module is setup properly (by command SET TRIG.MOD or after STOP ACQUIS). Readout tables must be loaded. A software trigger number 14 is delivered and the deadtime is reset. The readout tasks get the trigger 14 as first event. They may do specific actions, collect some data and write a start event.

Routine

f_ut_op_trig_mod

Task

m_util

START ARECEIVER

PURPOSE

(m_les data receive of a ar of a ar node

PARAMETERS
Description

Function    Enables data receive of a ar node
Routine     f_dr_cmd_ena_receive_data
Task        m_ar

START CMDREM

START CMDREM [port] [host]

PURPOSE     patch) Starts command semmand server
PARAMETERS

Description

Function    This channel provides generic command interface to some external application like dabc. By default port 6019 is used, any other number can be specified. In addition, one can restrict connection only for client from specified host (default, from any)
Routine     start_cmdrem_serv
Task        m_msg_log

START EVENT_SERV

START EVENT_SERV

[NOPORTS -VERB

PURPOSE    (m_event_serv) Starts m_event_serv.
PARAMETERS

scale  scaledown streams to analyse. 1: take all
events  maximum number of events to copy from a stream.
maxclnt  max number of clients
-NOPORTS  do not send information to portserver. (default)
-PORTS  send information to portserver.
-VERB  verbosity on.

Description

Function  abc
Routine  f_ev_cmd_start
Task  m_event_serv

START LOGREM

START LOGREM [port]

PURPOSE  (m_mstart log server

PARAMETERS

Description

Function  This channel provide all log messages to some external application like dabc By default port 6007 is used, any other number can be specified
Routine  start_logrem_serv
Task  m_msg_log
START MESSAGE

PURPOSE (m DISPATTs the message logger.

Description

Function The message logger is required before any other task can be started or any command can be executed.
Routine f_disp_sta_msg
Task m_dispatch

START OUTPUT

PURPOSE (m_to) startorting and event output output

PARAMETERS

Description

Function starts time sorting and event output
Routine f_to_start_data_out
Task m_to
START RIRECEIVER

PURPOSE  ) Enables data receive of a rirec node

PARAMETERS

Description

Function  Enables data receive of a rirec node
Routine    f_dr_cmd_ena_receive_data
Task       m_rirecrec

START TASK

START TASK  task [file]

PURPOSE  (m_distarts task.

PARAMETERS

    task    Task (program) name. Optionally with path.
            Default path is /MBSROOT/bin_HOSTTYPE.

    file    optional path

Description

Function  Start a task (program) by forking. When the task is known to
          the dispatcher through command definitions, the program is
          forked directly and the status is set to running. These tasks can
          be terminated by command STOP TASK. When the task is not
          known, it is forked through an intermediate task which
          terminates. The new task is entered to the
task list, but not marked running but detached thus indicating that it
does not accept commands. These tasks can be stopped by command
STOP TASK dummy pid -KILL. It is assumed that they exit when their
job is done.

<table>
<thead>
<tr>
<th>Routine</th>
<th>f_disp_sta_tsk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task</td>
<td>m_dispatch</td>
</tr>
</tbody>
</table>
STOP

STOP ACQUISITION

PURPOSE (m_util) Stops acquisition.

PARAMETERS
none

Description

Function This command delivers software trigger 15. Then the readout tasks recognise this event as last event. The master readout keeps the dead-time thus blocking further triggers. The collector frees the current buffer stream when event type 15 occurs. The status of the system is set to STOP PENDING until the transport acknowledges the last event and finishes the acquisition stop.

Routine f_ut_op_trig_mod

Task m_util

STOP ARECEIVER

PURPOSE (m_ar)es data receive of a ar n a ar node

PARAMETERS
GSI Multi-Branch System Reference Manual: MBS Command Description

Description

Function      Disables data receive of a ar node
Routine       f_dr_cmd_dis_receive_data
Task          m_ar

STOP CMDREM

PURPOSE      (m_dispatch) Start mand server
PARAMETERS   METERS

Description

Function      This function stop remote command server
Routine       stop_cmdrem_serv
Task          m_msg_log

STOP LOGREM

PURPOSE      (m_msg_log) Stop server
PARAMETERS   
Comma+    Command keys  STOP OUTPUT
Comma+

**Comma+ Command keys**

<table>
<thead>
<tr>
<th>Purpose</th>
<th>(m_to) stops time and event output</th>
</tr>
</thead>
</table>
| Parameters

**Description**

| Function | stops time sorting and event output |
| Routine  | f_to_stop_data_out |
| Task     | m_to |
| CVER     | |

Version 6.3 November 10, 2017
STOP

STOP RIRECEIVER

STOP RIRECEIVER

PURPOSE
(m_risables dables data receive of a rirec node)

PARAMETERS

Description

Function  Disables data receive of a rirec node
Routine    f_dr_cmd_dis_receive_data
Task       m_rirec
Task

PURPO

(m_disp(m_dispatch)) Stops task by sending command "exit"

PARAMETERS

task  Task (program) name

pid   Optional pid used with -KILL if task not known.

-ALL  Stop all known tasks except message logger.

-KILL Stop task by calling kill function with signal SIGTERM.

-ZOMBIE Remove status blocks of terminated tasks to let them die (Z to RIP).

Description

Function

Without -KILL: Sends command "exit" to the task. The task command thread exits and the main program exits. Only tasks running commands can be terminated by this way. Other tasks can only be stopped with -KILL.

zombies When a task terminates by itself, it goes into status Z(ombie), because the father must remove the termination status block. With the -Z switch the dispatcher looks through the task table and tries to remove pending termination status blocks. This is only possible for childs. When the dispatcher has been quit, all childs get the init task as father. Now the restarted dispatcher cannot remove their status block anymore.

Routine  f_disp_sto_tsk

Task    m_dispatch
TYPE

TYPE EVENT

PURPOSE (m_transport) Prints events.

PARAMETERS

- `events` number of events to print, default = 1
- `id` print only subevents with this procid
- `control` print only subevents with this controller type
- `crate` print only subevents with this subcrate
- `offset` print for each subevent data from offset on
- `items` print for each subevent only this number of items
- `-SAMPLE` print only first events of every buffer
- `-VERBOSE` print also event data
- `-DECIMAL` default is hex output (longwords)
- `-BUFFER` print buffer headers

Description

Function Prints event headers and event data
Routine `f_`
Task `m_transport`

Comma+ Command keys TYPE STREAM
PURPOS (m_transm_transport) Prints buffers of stream.

PARAMETERS

buffers number of buffers to type
-VERBOSE print also element data (including headers)
-HEADER  print also element headers

Description

Function Prints buffer headers and buffer data
Routine f_
Task m_transport
VOID

VOID

VOID

Purpose

(m_daq_rate) place holder, do not execute.

Parameters

Description

Function
This command must not be executed.

Routine

Task
m_daq_rate
VRA16D16

VRA16D16

VRA16D16

LOG -NOPRINT -FC

PURPOSE

(m_vme_serv) VME read A16 D16

PARAMETERS

addr
VME address of slave module to read from

size
size of data to read (in bytes)

repeat
repetition count of VME read

-LOG
log result in mbs log file

-NOPRINT
don’t print result on terminal

-FC
if RIO2 or RIO3 use find_controller function instead of static VME mapping

Description

Function
VME read A16 D16

Routine
f_vs_vme_read

Task
m_vme_serv
VRA24D16

VRA24D16

VRA24D16

LOG -NOPRINT -FC

PURPOSE

(m_vme_serv) VME read A24 D16

PARAMETERS

addr
VME address of slave module to read from

size
size of data to read (in bytes)

repeat
repetition count of VME read

-LOG
log result in mbs log file

-NOPRINT
don’t print result on terminal

-FC
if RIO2 or RIO3 use find_controller function instead of static VME mapping

Description

Function
VME read A24 D16

Routine
f_vs_vme_read

Task
m_vme_serv
VRA24D32

VRA24D32

VRA24D32

LOG -NOPRINT -FC

PURPOSE  
(m_vme_serv) VME read A24 D32

PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>addr</td>
<td>VME address of slave module to read from</td>
</tr>
<tr>
<td>size</td>
<td>size of data to read (in bytes)</td>
</tr>
<tr>
<td>repeat</td>
<td>repetition count of VME read</td>
</tr>
<tr>
<td>-LOG</td>
<td>log result in mbs log file</td>
</tr>
<tr>
<td>-NOPRINT</td>
<td>don’t print result on terminal</td>
</tr>
<tr>
<td>-FC</td>
<td>if RIO2 or RIO3 use find_controller function instead of static VME mapping</td>
</tr>
</tbody>
</table>

Description

Function  VME read A24 D32
Routine    f_vs_vme_read
Task       m_vme_serv
VRA32D16

LOG -NOPRINT -FC

PURPOSE (m_vme_serv) VME read A32 D16

PARAMETERS

addr VME address of slave module to read from
size size of data to read (in bytes)
repeat repetition count of VME read
-LOG log result in mbs log file
-NOPRINT don’t print result on terminal
-FC if RIO2 or RIO3 use find_controller function instead of static VME mapping

Description

Function VME read A32 D16
Routine f_vs_vme_read
Task m_vme_serv
**VRA32D32**

**VRA32D32**

```none
LOG -NOPRINT -FC
```

**PURPOSE**

(m_vme_serv) VME read A32 D32

**PARAMETERS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>addr</td>
<td>VME address of slave module to read from</td>
</tr>
<tr>
<td>size</td>
<td>size of data to read (in bytes)</td>
</tr>
<tr>
<td>repeat</td>
<td>repetition count of VME read</td>
</tr>
<tr>
<td>-LOG</td>
<td>log result in mbs log file</td>
</tr>
<tr>
<td>-NOPRINT</td>
<td>don’t print result on terminal</td>
</tr>
<tr>
<td>-FC</td>
<td>if RIO2 or RIO3 use find_controller function instead of static VME mapping</td>
</tr>
</tbody>
</table>

**Description**

<table>
<thead>
<tr>
<th>Function</th>
<th>VME read A32 D32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine</td>
<td>f_vs_vme_read</td>
</tr>
<tr>
<td>Task</td>
<td>m_vme_serv</td>
</tr>
</tbody>
</table>
VWA16D16

VWA16D16

LOG -NOPRINT -FC -INC

PURPOSE

(m_vme_serv) VME write A16 D16

PARAMETERS

addr
VME address of slave module to write to
data
data to write
size
size of data to write (in bytes)
repeat
repetition count of VME write
-LOG
log result in mbs log file
-NOPRINT
don’t print result on terminal
-FC
if RIO2 or RIO3 use find_controller function instead of static VME mapping
-INC
increment data by 1 per write cycle

Description

Function
VME write A16 D16
Routine
f_vs_vme_write
Task
m_vme_serv


Purpose

VME write A24 D16

Parameters

- **addr**: VME address of slave module to write to
- **data**: data to write
- **size**: size of data to write (in bytes)
- **repeat**: repetition count of VME write
- **-LOG**: log result in mbs log file
- **-NOPRINT**: don’t print result on terminal
- **-FC**: if RIO2 or RIO3 use find_controller function instead of static VME mapping
- **-INC**: increment data by 1 per write cycle

Description

- **Function**: VME write A24 D16
- **Routine**: f_vs_vme_write
- **Task**: m_vme_serv
## VWA24D32

**LOG -NOPRINT -FC -INC**

### Purpose

(m_vme_serv) VME write A24 D32

### Parameters

- **addr**: VME address of slave module to write to
- **data**: data to write
- **size**: size of data to write (in bytes)
- **repeat**: repetition count of VME write
- **-LOG**: log result in mbs log file
- **-NOPRINT**: don’t print result on terminal
- **-FC**: if RIO2 or RIO3 use find_controller function instead of static VME mapping
- **-INC**: increment data by 1 per write cycle

### Description

- **Function**: VME write A24 D32
- **Routine**: f_vs_vme_write
- **Task**: m_vme_serv
VWA32D16

VWA32D16

VWA32D16

LOG -NOPRINT -FC -INC

PURPOSE  (m_vme_serv) VME write A32 D16

PARAMETERS

addr      VME address of slave module to write to
data      data to write
size      size of data to write (in bytes)
repeat    repetition count of VME write
-LOG      log result in mbs log file
-NOPRINT  don’t print result on terminal
-FC       if RIO2 or RIO3 use find_controller function instead of static VME mapping
-INC      increment data by 1 per write cycle

Description

Function  VME write A32 D16
Routine   f_vs_vme_write
Task      m_vme_serv
VWA32D32

LOG -NOPRINT -FC -INC

PURPOSE (m_vme_serv) VME write A32 D32

PARAMETERS

addr       VME address of slave module to write to
data       data to write
size       size of data to write (in bytes)
repeat     repetition count of VME write
-LOG       log result in mbs log file
-NOPRINT   don’t print result on terminal
-FC         if RIO2 or RIO3 use find_controller function instead of static VME mapping
-INCR       increment data by 1 per write cycle

Description

Function      VME write A32 D32
Routine       f_vs_vme_write
Task          m_vme_serv
WRITE

WRITE SMI BROADCAST

WRITE SMI BROADCAST

PURPOSE

(m_smi) Writes to FastBus Module

PARAMETERS

type
Broadcast type

data
Data to be written

-CONTROL
Write to control space

-DATA
Write to data space

Description

Function
Broadcast write to FastBus

Routine
f_smi_fwritem

Task
m_smi

WRITE SMI MODULE

WRITE SMI MODULE

PARAMETERS

gad
Geographical address

sad
Secondary address

data
Data to be written
-CONTROL  Write to control space
-DATA      Write to data space

Description
Function    Writes to FastBus
Routine     f_smi_fwrite
Task        m_smi

WRITE SMI NTA

PURPOSE      (m_smi) write secondary address to ay address to an FastBus slave
PARAMETERS
sad          Secondary address

Description
Function    Writes secondary address to an attached slave
Routine     f_smi_fpwna
Task        m_smi

WRITE SMI SEQUENCER

PURPOSE      PURPOSE : (m_smi) Write SMI sequencer instruction word
WRITE

PARAMETERS

address  Sequencer address
word    Sequencer instruction word
table    Array of instruction word bytes

Description

Function  Writes SMI sequencer instruction word to address.

The instruction has to be one word like
8424000002480000
or an array of bytes
[84,24,0,0,2,48,0,0]

Routine  f_smi_wrtswrd
Task    m_smi

WRITE SMI SLAVE

WRITE SMI SLAVE data

PURPOSE  Bus write to an atwrite to an attached slave

PARAMETERS

data    Data to be written
Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Routine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f_smi_fpw</td>
</tr>
</tbody>
</table>

Performs a write action on FastBus to an attached slave.

<table>
<thead>
<tr>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>m_smi</td>
</tr>
</tbody>
</table>
PURPOSE (m_dispatch) Executes shell command line.

PARAMETERS

command Command to be executed.

a# Further arguments

Description

Function Use function system() to fork a command.
Example X ps -af
Routine f_disp_shell
Task m_dispatch
## Contents

1 Preface .......................... 1  
   1.1 MBS Authors and Advisory Service ......................... 2

2 MBS Keyword Summary .......... 3  
   MBS keywords ........................................ 4

3 MBS Command Summary ........ 27

4 MBS Command Description .... 41  
   ACCESS ........................................... 42  
   ATTACH .......................................... 43  
   CAMAC .......................................... 44  
   CLEAR .......................................... 46  
   CLOSE .......................................... 51  
   CNAF .......................................... 52  
   COMMENT .................................... 53  
   CONNECT .................................... 54  
   CREATE .................................... 57  
   DEFINE .................................... 63  
   DELETE .................................... 64  
   DETACH .................................... 66  
   DISABLE .................................. 67  
   DISCONNECT .................................. 72  
   DISMOUNT ................................... 75  
   DUMP ................................... 76  
   ENABLE ................................... 78  
   HELP ................................... 84  
   INITIALIZE ................................ 85  
   LOAD ................................... 87  
   MOUNT ................................... 92  
   NEWS ................................... 93