

# Information Pack on On-boarding Activities of OMD Mainland Market Data Hub

6 February 2013

---

---

## Contents

1. INTRODUCTION.....	2
2. BACKGROUND.....	2
3. FEED ENROLMENT .....	2
4. FEES & CHARGES .....	3
5. OMD NETWORK & CONNECTION ISSUES .....	4
6. CONFIGURATION AND SETTING .....	5
7. CLIENT INTERFACE DEVELOPMENT .....	7
8. TESTING PLAN AND TESTING ARRANGEMENT .....	7
9. ROLLOUT ARRANGEMENT .....	9
10. ENQUIRY CONTACTS.....	10
11. REFERENCE MATERIALS.....	10
12. ACTION ITEMS & TIME TABLE.....	11

## 1. Introduction

Subsequent to the issuance of [interface specifications](#), [developers guide](#) and [information sheet](#) for HKEx Orion Market Data Platform (“OMD”) – Mainland Market Data Hub (“MMDH”), this information pack is now published to provide clients intending to receive OMD Securities Market & Index datafeed products through the MMDH with detailed information about the arrangements and activities in preparation for the rollout of OMD MMDH.

## 2. Background

OMD MMDH will be deployed in Shanghai to facilitate direct access by local clients to HKEx market data without the need for cross-border telecommunication lines. Clients are advised to assess their business needs before confirming the feed enrollment with OMD MMDH.

The datafeed products to be offered on OMD MMDH will be as follows:

Datafeed Product	Content	Complimentary Service Feed(s)
<b>Securities Market</b>		
1. OMD Securities Standard ("SS")	<ul style="list-style-type: none"> <li>Bid/Ask prices, Nominal/ Last trade prices</li> <li>all trade tickers (timestamp: HH:MM:SS)</li> <li>Level 2 (10 market depths)</li> <li>Broker Queues</li> </ul>	<ul style="list-style-type: none"> <li>Odd Lot Order – Odd lot market by order information</li> </ul>
<b>Index Data</b>		
1. Index Feed	S&P/HKEx indices and selected indices from CESC, CSIC and HSIL	

*Note : Index Feed should always be coupled with the subscription OMD Securities Standard. It is offered as a complimentary service to SS for the time being. Please note that HKEx reserves the right to impose charge on Index Feed in future. Clients who wish to redistribute the indices will need to obtain the corresponding licence from the index compilers directly. Please refer to the prevailing fees for Index Feed as stipulated in OMD Fees Schedule.*

## 3. Feed Enrolment

### 3.1 Enrolment

3.1.1 OMD MMDH will roll out tentatively by July/Aug 2013. In order to receive HKEx securities market data through the OMD MMDH at its initial rollout, clients should pay attention to the key dates and major activities in [Section 12](#) Action Items and Timetable and prepare plans to achieve their readiness according to the schedule.

3.1.2 For resource planning, clients that plan to get the OMD data from OMD MMDH at its initial rollout are requested to confirm their enrollment for the OMD securities market datafeed product(s) on OMD MMDH by returning the OMD MMDH Feed Enrolment Form via email to

[OrionMarketData@hkex.com.hk](mailto:OrionMarketData@hkex.com.hk) **on or before 30 March 2013**. Clients should observe the fees and charges applicable to their OMD MMDH subscription as indicated in paragraph 4 below.

- 3.1.3 Feed-providing vendors are advised to communicate with their indirect connection clients about their plan to connect to OMD MMDH for receiving HKEx securities market data.

### 3.2 Licence Agreement Updates

- 3.2.1 New Clients: Clients who are interested to connect to OMD MMDH may contact our [Sales & Marketing team](#) for detailed licensing requirement.

- 3.2.2 Existing Clients: No new licence agreements are required for subscribing to OMD MMDH. Our Sales & Marketing team will follow up with the existing clients to update Schedule 3 and Schedule 4 of the Market Data Vendor Licence Agreement and/or Market Data End-User Licence Agreement upon client's successful completion of the Post-Release Test.

## 4 Fees & Charges

- 4.1. Fee Schedule: Clients who subscribe the OMD MMDH will be subject to the Redistribution Fee, Connection Fee and the relevant Subscriber Fee. OMD MMDH Fees Schedule has been published and clients may refer to the Fees Schedule section under Product and Services of HKEx website (<http://www.hkex.com.hk/eng/prod/dataproduct/dataproduct.htm>).
- 4.2. Charges for clients who connect to both Central System and MMDH: Clients who obtain our market data from Securities Standard (SS) through both OMD MMDH and OMD central system will need to pay Redistribution Fee once only for the right to redistribute the SS data. However, in addition to the Subscriber Fees, they need to pay the Connection Fees for connecting to OMD central system and MMDH separately.
- 4.3. Parallel Run: A **3-months grace period** from the initial rollout of the OMD MMDH will be granted to the existing MDF 3.8 clients who would like to have a parallel run of both OMD MMDH and MDF 3.8<sup>1</sup> to smooth their service migration. During the grace period, Redistribution Fee and Connection Fee of MDF 3.8 will be waived. Clients who choose to retain both OMD MMDH and MDF 3.8 beyond the grace period will be liable to pay the Redistribution Fee and Connection Fees where applicable for both feeds.
- 4.4. Marketing Program: Clients who enroll for OMD MMDH **on or before 30 March 2013**<sup>2</sup> could entitle to join our MMDH Founding Members Programme (FMP) to enjoy exclusive benefits including joint marketing campaign with HKEx, additional free trial units and become members of joint communication group with HKEx. For FMP details, please refer to the Promotion section under Product and Services of HKEx website (<http://www.hkex.com.hk/eng/prod/dataproduct/mmdhfmp/default.htm>).

<sup>1</sup> MDF 3.8 will be terminated in 6 months after rollout of OMD Securities Market (OMD-C). OMD-C rollout is currently scheduled for Q2 2013.

<sup>2</sup> The enrollment deadline has been extended to 30 March 2013 from 28 February 2013 to align with the introduction of Founding Members Programme (FMP).

## 5 OMD Network & Connection Issues

- 5.1 Different from OMD central system in Hong Kong which transmits data by multicast, OMD MMDH transmits data by unicast.
- 5.2 HKEx will operate the OMD MMDH in two data centres in Shanghai, one as the primary site and the other as the secondary site. Site addresses are as follows:
- Primary Site : No. 2001, Yanggao North Road, Waigaoqiao Bonded Zone, Shanghai, China
- Secondary Site : To be announced in March 2013
- 5.3 Clients subscribing to the datafeed products available in OMD MMDH should plan for installation of leased lines for connecting to OMD MMDH primary and secondary sites according to the bandwidth requirement.
- 5.4 The current minimum bandwidth requirements for the following datafeed products of OMD MMDH are as follows. It is subject to change from time to time.

Datafeed Product		Message Rate	Estimated Bandwidth		Estimated Total
			Mandatory	Complimentary	
1.	<b>Securities Standard ("SS")</b>	Conflated at 2,000 stock page updates per second	<b>10Mbps</b>	Order Lot Orders: <b>50Kbps</b>	<b>10Mbps</b>
2.	<b>Index Feed</b>	Streaming at, subject to the source, <100 messages per second	<b>Not significant</b> ( <i>Can be included in SS 10Mbps line</i> )	-	<b>Not significant</b>

- 5.5 To conduct on-boarding system tests including the certification test in the OMD MMDH open test environment, a client will need to install two testing lines of 10Mbps bandwidth each and other equipment as required to connect to the OMD MMDH primary site in Shanghai at their own cost.
- 5.6 Clients who wish to join the OMD MMDH initial rollouts are advised to ensure that line installation is completed by end March 2013 for the commencement of Open Test in April 2013.
- 5.7 Clients should make their own arrangement with local Telco companies for the subscription of Ethernet connection between their own servers and OMD MMDH. The local Telco companies should provide point-to-point 10/100/1000 Base-T network interface for connections to the RJ45 sockets of LAN switches of HKEx OMD MMDH. Clients are responsible to manage the local Telco companies to work toward their target implementation schedule. The client should also provide the port speed and the duplex mode to HKEx in order to configure the OMD LAN switches.
- 5.8 Clients must configure their networks and servers according to the IP addresses and routing information provided by HKEx. If there is IP address conflict between the OMD connections and IVs' own networks, clients should use Network Address

Translation (NAT) or other techniques to overcome this problem.

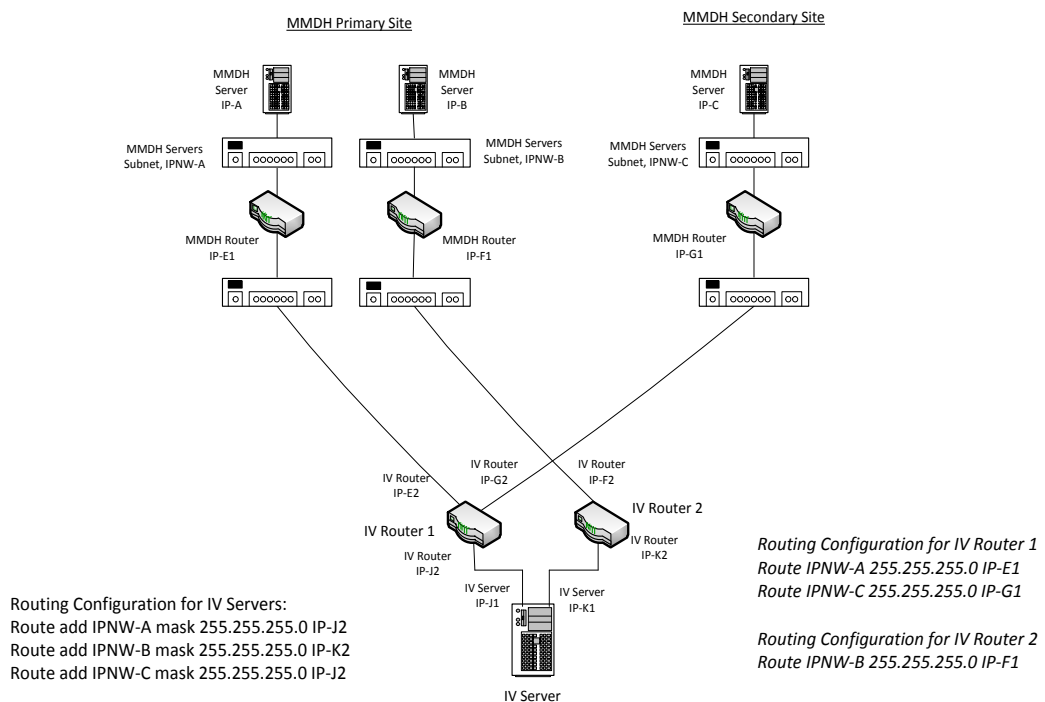
- 5.9 Static route is used between the connections between HKEx OMD network and IVs' networks. If there is any failure on the network, the client applications of IVs should be able to detect the loss of some heart beat or keep alive packets, then the application will call to another OMD server to resume the services.

## 6 Configuration and Setting

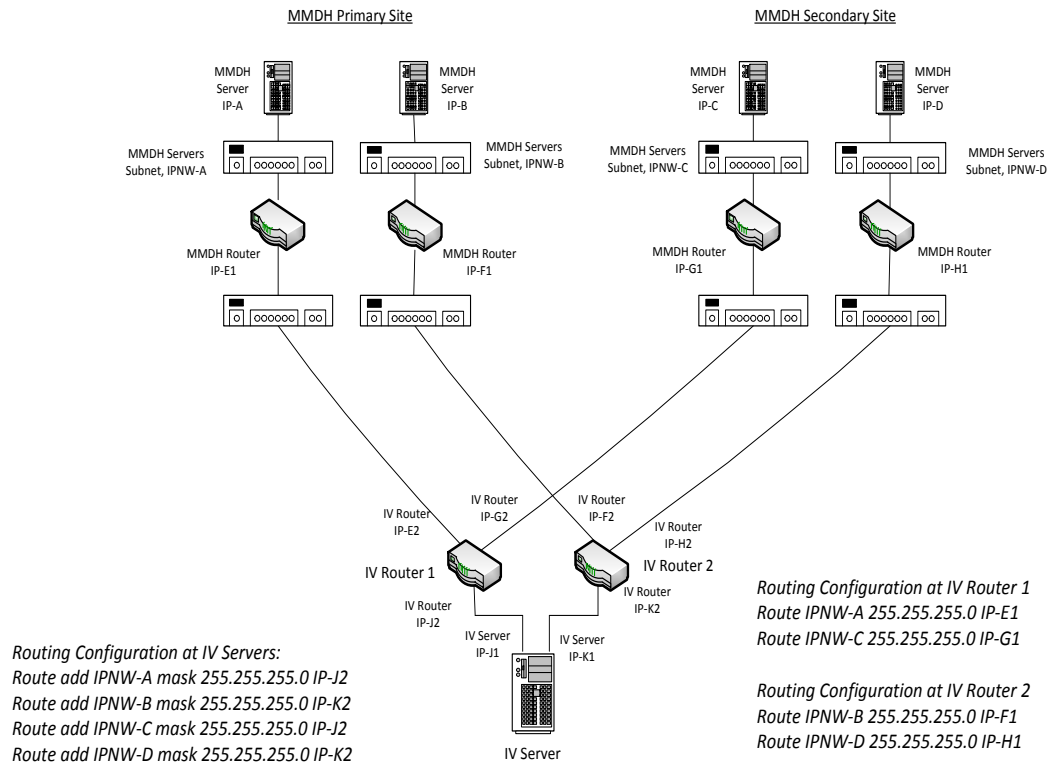
6.1 Connection Options: Two connection options are available to clients for selection:

6.1.1 **Standard configuration:** A standard configuration will include single live connection. Minimum 3 lines will be required, two connected to the OMD MMDH primary site and one connected to OMD MMDH secondary site.

6.1.2 **Non-standard configuration:** An additional live connection added to the standard service will cover two live connections to each site. In this configuration, 4 lines will be required, i.e. two connected to the OMD MMDH primary site and two connected to the OMD MMDH secondary site. Information Vendors can adopt this configuration to receive production data transmitted from both links concurrently at OMD MMDH production system.



Standard Configuration



### Non-Standard Configuration

- 6.2 Feed-Providing Vendors: OMD MMDH feed-providing vendors who are providing real-time feeds to indirectly connected OMD vendors must adopt the non-standard configuration so as to have dual live connection with HKEx to ensure the reliability of their service provided to their downstream clients.
- 6.3 Client Configuration for Testing Environment: HKEx will provide each client a “Client Configuration Information Sheet” which contains client-specific IP information for the client to make preparation for their equipment to connect to the OMD MMDH testing environment and production environment. Clients should configure their system accordingly prior to conducting system tests in the Open Test environment and reconfigure the system again prior to Post Release Test. A sample “Client Configuration Information Sheet” of both testing environment and production environment will be distributed to clients together with this Information Pack.

*Clients intending to connect to both central site system and MMDH system have to note that the two systems are different systems; each has its own on-boarding tool and the on-boarding test arrangements.*

## 7 Client Interface Development

- 7.1 Clients are required to read through the latest Interface Specification and start the development of their interface application with OMD MMDH as early as possible should they plan to use the OMD MMDH at its initial rollout. They are also advised to make reference to OMD MMDH Developers Guide.

## 8 Testing Plan and Testing Arrangement

### 8.1 On-boarding tool with canned data

HKEx provides clients with OMD MMDH on-boarding tool (“the on-boarding tool”) in order to facilitate their development and testing of the interface with OMD MMDH. The first version of the on-boarding tool was distributed to clients on 31 December 2012 together with the user guide. The on-boarding tool consists of the components listed in the table below. Clients who would like to receive a copy of the on-boarding tool could contact HKEx via the [enquiry contact](#):

Component	Description
MMDH On-boarding tool	MMDH on-boarding tool reads canned data and sends messages to Client’s application system
MMDH testing client	MMDH testing client application is used to verify the MMDH on-boarding tool setup and if it runs properly
Canned Data	Fictitious trading data to facilitate testing - Separate files may exist for different testing purpose (e.g. workload test or functional test) - MMDH on-boarding tool will read the canned data and send respective messages to Client’s application system.

*Note: Restart and Refresh service is not supported in the on-boarding tool, clients should expect the test on their systems’ capability in handling restart and refresh to be available in OMD MMDH Open Test and verified in OMD MMDH Certification Test.*

The on-boarding tool is intended to help clients ensure their readiness for the implementation before joining the Open Test, Certification Test and Market Rehearsal (MRs) as required by HKEx.

The on-boarding tool support clients’ capacity and performance tests by allowing canned data to be replayed at various fixed rates. Clients can also make use of the on-boarding tool to test their system functions for receiving, decoding and processing the OMD data.

The second version of the on-boarding tool will be distributed to clients in due course. This version will come with a Sample Answer Book which provides actual values of data contents in selected messages as well as the order book images of selected securities. By comparing the same information recorded in their systems with the expected results provided in the Answer Book, clients can verify their systems’ capability of handling OMD messages and hence their readiness to proceed to the next on-boarding stages – Certification Test, Market Rehearsal and then production rollout.

## 8.2 Open Test

OMD MMDH Open Test environment will be available in the following timeslots every trading day from Monday to Friday tentatively from April 2013 to June 2013, except those slots reserved for Certification Test (see Section 6.3 below), for direct connection clients to conduct thorough tests on their systems prior to the Certification Test:

Normal Session	:	9:00am – 5:00pm
Volume Session (controlled environment)	:	5:30pm – 6:00pm

Normal Session will replay market data following the production full-day trading day timetable. Volume session will provide an environment for clients to test their system capability of receiving and processing the high volume of market data messages according to the bandwidth requirement.

Clients who plan to join the initial OMD MMDH rollout (tentatively July/Aug 2013) should complete the installation of leased lines to OMD MMDH testing environment about 2 weeks prior to the commencement of the Open Test.

*A separate notice will be served in late March 2013 to provide details of the test and the exact schedule of the Open Test when it is confirmed.*

## 8.3 Certification Test

Clients are required to perform and pass the Certification Test as required by HKEx tentatively from May to June 2013. Certification Test will be conducted in the controlled environment. Clients will be required to confirm their enrollment for the Certification Test slots tentatively by April 2013 and the test slots will be assigned subject to their readiness.

Certification Test aims to ensure that client systems have been properly developed and tested with the ability to receive and process the OMD market data through MMDH properly and it covers in 4 test areas:

1. Message Decoding
2. Order Book Building
3. Data Recovery
  - A. Restart
  - B. Refresh
4. Performance/ Capacity

After clients have passed the Certification Test, clients should prepare for connection to OMD MMDH production environment so as to take part in the Market Rehearsal and Post Release Test. Clients should convert the OMD MMDH testing line at primary site to production line and install the production line(s) applicable to their subscribed configuration at secondary site. IP addresses, User ID and password that are for connection with HKEx OMD MMDH production environment will be provided in our Client Configuration Information Sheet. Clients are responsible to arrange with their local Telco companies for the line reconfiguration or installation in time and bear the necessary cost, if any.

Clients who have passed the Certification Test are allowed to proceed to the Market Rehearsals.

Feed-providing vendors who receive OMD data from MMDH should provide testing facility to their indirect connection clients to enable them to verify their system capability of handling the OMD MMDH data. Declaration of indirect connection clients' readiness via both feed providing vendors and indirect connection clients itself is required.

*HKEx will issue the Certification Test Document to enrolled clients tentatively by March 2013 and require the clients to enroll for the certification test slots by April 2013.*

Note to indirect connection clients: Indirect connection clients who will receive the market data in OMD MMDH original format from the feed-providing vendors should also complete the same set of Certification Test cases as per the direct connection clients and declare their result and readiness directly to HKEx. Indirect connection clients are advised to consult their direct connection vendors on the arrangement of such tests.

#### 8.4 Market Rehearsals & Post Release Test

Other than the above preparatory tests, clients are also expected to take part in the Market Rehearsals and the Post Release Test tentatively in Jun/Jul 2013 (Saturdays) using the production environment before the target launch day. Volume test session will be conducted in Market Rehearsals. Feed-providing vendors are advised to offer adequate environment to their indirect connection clients to perform the Market Rehearsals and declare their readiness accordingly. Details of the Market Rehearsals and Post Release Test will be further announced.

Note to indirect connection clients: Indirect connection clients are advised to conduct the Market Rehearsals as far as possible to ensure their readiness for OMD MMDH production. They should consult their feed-providing vendors about the environment setup.

### 9. **Rollout Arrangement**

#### 9.1 Stabilization Period

Upon the successful completion of the Post-Release Test on a dedicated Saturday tentatively in Jul/Aug 2013, the OMD MMDH will be rolled out for production use. Same as the contingency measure for OMD rollout in central site, there will be a 2-weeks stabilization period where the operation of OMD MMDH will be monitored closely and contingency measures in place to mitigate impact on clients' systems and their associated downstream services in case of unexpected system incident.

#### 9.2 Technical Support

HKEx staff in Hong Kong will provide front-line technical support to OMD MMDH clients.

If a client encounters any network issue in relation to the leased lines, they should contact the respective local Telco Company for immediate assistance.

### 9.3 Technical Briefing Session

In order to effectively communicate to OMD MMDH clients on the system rollout, HKEx plans to provide technical briefing session(s) to enrolled clients in February 2013 in Shanghai. The technical briefing will cover, among other things, functional and technical details of OMD MMDH, testing and implementation arrangements as well as information essential for the clients' preparation for the Certification Test.

## 10. Enquiry Contacts

Clients who have questions over the implementation activities of OMD MMDH can email your enquiries to [OrionMarketData@hkex.com.hk](mailto:OrionMarketData@hkex.com.hk) or contact the following HKEx staff:

### OMD MMDH – On-boarding Support & Activities

- Vendor Support & Data Management  
Vendor Support Hotline Tel : (852) 2211 6558

### OMD MMDH Fees and Licensing Issues

- Sales & Marketing  
Ms. Yvette Ying Tel : (852) 2840 3009  
Ms. Iris Cheung Tel : (852) 2840 3569

### OMD MMDH Project Issues

- Business Development  
Ms. Phoebe Kung Tel : (852) 2840 3283  
Mr. Leo Liao Tel : (86) 21 6058 6137

## 11. Reference Materials

In addition to this information pack, vendors should also make reference to the following documents that are published on the [HKEx website](#).

For all Clients	
Feed Enrolment Form	<a href="#">HKEx Website</a>
OMD Interface Specifications for Securities Market & Index Datafeed Products – Mainland Market Data Hub (version 1.1)	<a href="#">HKEx Website</a>
Information Sheet on OMD MMDH Securities Market Implementation	<a href="#">HKEx Website</a>

For Direct Connected Clients ONLY	
OMD MMDH Developers Guide for Securities Market & Index Datafeed Products	<a href="#">HKEx Website</a>
OMD MMDH On-boarding Tool, User Guide and Canned Data	Sent on 31 Dec 2012 (Further copy available at request)
Information Pack of MMDH Founding Members Programme	<a href="#">HKEx Website</a>
Sample Client Configuration Sheet	<a href="#">HKEx Website</a>
Certification Test document	To be provided

## 12. Action Items & Time Table

To facilitate clients' preparation for OMD Securities & Index on-boarding - MMDH, please find below the tentative schedule for the initial roll-out:

Action Items	Activities	Tentative Dates	'12	2013								
			Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
1. OMD MMDH On-boarding tool Testing	Dispatch of OMD MMDH On-boarding tool packages	Dec 2012	■									
	Clients to develop their system and perform on-boarding tool testing on their system.	Dec 2012 – Jun 2013	■	■	■	■	■	■	■			
2. OMD MMDH Feed Enrolment	Clients to complete and return OMD MMDH Feed Enrolment Form to HKEx-IS.	On or before 30 Mar 2013				■						
3. Founding Members Programme	Introduction of Founding Members Programme (FMP)	30 Mar 2013				■						
4. OMD MMDH Open Test	Clients to test their system in the OMD open test environment	Apr 2013 – Jun 2013					■	■	■			
5. Line Application/ Installation	Clients to install testing leased lines through local Telco 2 weeks before the Open Test.	Feb 2013 – May 2013			■	■	■	■				
	Clients to reconfigure leased lines at primary site for production and install leased line(s) to secondary site.	Mar 2013 – Jun 2013					■	■	■			
6. Certification Test (Mandatory)	Clients to participate the certification test and declare their readiness.	May 2013 – Jun 2013						■	■			
7. Market Rehearsals (Mandatory)	Clients to participate and confirm results of the market rehearsals.	Jun 2013 – Jul 2013								■	■	
8. Post Release Test (Mandatory)	Clients to participate and confirm results of the post release test.	Jul/Aug 2013									■	■
9. Initial Rollout of OMD MMDH	OMD MMDH goes live after successful completion of post-release test.	Jul/Aug 2013									■	■
10. Stabilization Period	2 weeks of stabilization period upon initial rollout of OMD MMDH	Jul/ Aug 2013									■	■

- End -