National Stock Exchange of India Limited

Circular

Department: MEMBER SERVICE DEPARTMENT	
Download Ref No: NSE/MSD/67677	Date: April 25, 2025
Circular Ref. No: 18/2025	

All Members,

Market Data – Consolidated Circular

Exchange has been issuing various circulars from time to time for content relating to Market Data Broadcast. This consolidated circular replaces earlier consolidated circular NSE/MSD/61737 dated April 26, 2024, on the captioned subject. This consolidated circular is prepared which is a compilation of subsequent circulars related to Market Data Broadcast issued till March 31, 2025. This consolidated circular encapsulates regulations / instructions of all earlier circulars issued by Exchange from time to time and new instructions as applicable.

In this regards, members may please note the following:

A) The following operational instructions are to be noted and acted upon:
  - **Annexure 1**: Price volume, other related data, master updates, market open/close status message broadcast, etc.
  - **Annexure 2**: Tick by Tick order and trade data via Multicast.
  - **Annexure 3:** Advisory for subscribing to market data broadcast

B) The parameters mentioned in the annexures will be applicable for all live and mock (both regular and BCP) trading sessions.

C) Members shall have to strictly abide by the various circulars / communications / instructions / directions issued by the Exchange from time to time and members shall remain compliant in this regard. Additionally, all communications/ instructions/ circulars/ directions from the Exchange have to be complied with in this regard. Any non-compliance shall invite disciplinary action by the Exchange which will be initiated in accordance with the applicable Exchange Byelaws, Rules and Regulations.

D) No information has been rescinded for this consolidation, however, in future for any rescinded information, members may note the below:

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Notwithstanding such rescission

a. Anything done or any action taken or purported to have been done or contemplated under the rescinded guidelines before the commencement of this Master Circular shall be deemed to have been done or taken or commenced or contemplated under the corresponding provisions of the Master Circular or rescinded guidelines whichever is applicable.

b. The previous operation of the rescinded guidelines or anything duly done or suffered thereunder, any right, privilege, obligation or liability acquired, accrued or incurred under the rescinded guidelines, any penalty, incurred in respect of any violation committed against the rescinded guidelines, or any investigation, legal proceeding or remedy in respect of any such right, privilege, obligation, liability, penalty as aforesaid, shall remain unaffected as if the rescinded guidelines have never been rescinded.

For and on behalf of
National Stock Exchange of India Limited

Khushal Shah
Associate Vice President

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Annexure 1

A) Combined broadcast - Price volume (5 depth 1 second refresh), other related data, master updates, market open/close status message broadcast etc.

Stream	Security / Contracts	Multicast IP	Port	Approx. bandwidth utilization*
CM (Source 1)	Active	239.50.50.11	10811	600 Kbps
CM (Source 2)		239.50.50.16	10816	600 Kbps
CD (Source 1)	Active	239.50.50.72	10872	600 Kbps
CD (Source 2)		239.50.50.77	10877	600 Kbps
FO Stream A (Source 1)	Active	239.50.50.22	10822	2.5 Mbps
FO Stream A (Source 2)		239.50.50.27	10827	2.5 Mbps
CO (Source 1)	Active	239.50.50.51	18051	80 Kbps
CO (Source 2)		239.50.50.56	10856	80 Kbps
SLBM (Source 1)	Active	239.50.50.61	10861	40 Kbps
SLBM (Source 2)		239.50.50.66	10866	40 Kbps

*Approx. Bandwidth utilization is for single parameter

B) Stream wise broadcast - Price volume (5 depth 1 second refresh), other related data, master updates, market open/close status message broadcast etc.

For CM Segment:

Stream**	Stream ID	Security / Contracts**	(Source 1)		(Source 2)		Approx. bandwidth utilization
			Multicast IP	Port	Multicast IP	Port	
CM Stream 1	1	As per master stream file	239.50.51.201	15201	239.50.51.211	15211	1.5 Mbps
			239.50.51.200	15200	239.50.51.200	15200	
CM Stream 2	2	As per master stream file	239.50.51.202	15202	239.50.51.212	15212	1.5 Mbps
			239.50.51.200	15200	239.50.51.200	15200	
CM Stream 3	3	As per master stream file	239.50.51.203	15203	239.50.51.213	15213	1.5 Mbps
			239.50.51.200	15200	239.50.51.200	15200	
CM Stream 4	4	As per master stream file	239.50.51.204	15204	239.50.51.214	15214	1.5 Mbps
			239.50.51.200	15200	239.50.51.200	15200	
CM Stream 5	5	As per master stream file	239.50.51.205	15205	239.50.51.215	15215	1.5 Mbps
			239.50.51.200	15200	239.50.51.200	15200	

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For FO Segment:

Stream	Stream ID	Security / Contracts *	(Source 1)		(Source 2)		Approx. bandwidth utilization
			Multicast IP	Port	Multicast IP	Port	
FO Stream B	1	As per master stream file	239.50.51.21	15021	239.50.51.121	15121	0.1 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream C	2	As per master stream file	239.50.51.22	15022	239.50.51.122	15122	0.1 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream D	3	As per master stream file	239.50.51.23	15023	239.50.51.123	15123	0.6 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream E	4	As per master stream file	239.50.51.24	15024	239.50.51.124	15124	0.9 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream F	5	As per master stream file	239.50.51.25	15025	239.50.51.125	15125	0.4 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream G	6	As per master stream file	239.50.51.26	15026	239.50.51.126	15126	0.1 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream H	7	As per master stream file	239.50.51.27	15027	239.50.51.127	15127	0.1 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream I	8	As per master stream file	239.50.51.28	15028	239.50.51.128	15128	0.1 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream J	9	As per master stream file	239.50.51.29	15029	239.50.51.129	15129	0.1 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream K	10	As per master stream file	239.50.51.30	15030	239.50.51.130	15130	0.4 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream L	11	As per master stream file	239.50.51.31	15031	239.50.51.131	15131	0.1 Mbps
			239.50.51.20	15020	239.50.51.20	15020	

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FO Stream M	12	As per master stream file	239.50.51.32	15032	239.50.51.132	15132	0.1 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream N	13	As per master stream file	239.50.51.33	15033	239.50.51.133	15133	3 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream O	14	As per master stream file	239.50.51.34	15034	239.50.51.134	15134	3 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream P	15	As per master stream file	239.50.51.35	15035	239.50.51.135	15135	3 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream Q	16	As per master stream file	239.50.51.36	15036	239.50.51.136	15136	3 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream R	17	As per master stream file	239.50.51.37	15037	239.50.51.137	15137	3 Mbps
			239.50.51.20	15020	239.50.51.20	15020	
FO Stream S	18	As per master stream file	239.50.51.38	15038	239.50.51.138	15138	3 Mbps
			239.50.51.20	15020	239.50.51.20	15020	

Notes: 1) Stream wise broadcast is not recommended for Neatplus application.

2) *Members are required to refer the Master Files for MTBT (point A of Annexure 2) for details regarding tokens broadcasted in the respective stream(s).

Members can refer file "cm_index_token_mstr.txt" to identify the index tokens. This file is available on extranet under path "/common/ntneat".

C) Limit Price Protection Range (LPP) Broadcast:

Limit Price Protection Range is applicable only in FO segment and Exchange provides related broadcast for NNF users as below:

Limit Price protection Range (LPP) Parameters						
Security / Contracts	**Segment**	**Source 1**		**Source 2**		**Approx. bandwidth utilization**
		Multicast IP	**Broadcast Port**	**Multicast IP**	**Broadcast Port**	
Limit Price Protection Range (LPP)	FO	239.55.55.21	55021	239.55.55.121	55121	2 Mbps

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	COM	239.55.55.51	55051		-	-	500 Kbps

Annexure 2

Tick by Tick order and trade data via Multicast (MTBT)

A)   Master Files for MTBT:

Exchange provides MTBT master files for mapping information about the stream id and token number of the security/contract on specified extranet paths as mentioned below:

Segment	Extranet path	File name
CM	/ftp/common/tbt_masters	cm_contract_stream_info.csv
FO	/faoftp/faocommon/tbt_masters	fo_spd_contract_stream_info.csv fo_contract_stream_info.csv
CD	/cdsftp/cdscommon/tbt_masters	cd_contract_stream_info.csv cd_spd_contract_stream_info.csv
CO	/comtftp/comtcommon/tbt_masters	co_contract_stream_info.csv

The header of above file formats in CM, FO, CD and CO segments are provided in the MTBT API specification document available on the website : https://www.nseindia.com/trade/platform-services-neat-trading-system-protocols .

B)   Segment wise details of Multicast IP address and port are as below:

Market participants are advised to monitor and adequately size their infrastructure and systems while subscribing to these feeds.

CM						
Stream ID	Contents	Source 1		Source 2 (Delayed Feed)		Approx. bandwidth utilization
		Multicast IP	Port	Multicast IP	Port	
1	As per master stream file	239.60.60.41	16641	239.60.60.31	10631	8 Mbps
2	As per master stream file	239.60.60.42	16642	239.60.60.32	10632	8 Mbps
3	As per master stream file	239.60.60.43	16643	239.60.60.33	10633	8 Mbps

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4	As per master stream file	239.60.60.44	16644	239.60.60.34	10634	8 Mbps
5	As per master stream file	239.60.60.45	16645	239.60.60.35	10635	8 Mbps

FO						
Stream ID	**Contents ***	**Source 1**		**Source 2** **(Delayed Feed)**		**Approx. bandwidth utilization**
		Multicast IP	**Port**	**Multicast IP**	**Port**	
1	As per master stream file	239.70.70.41	17741	239.70.70.31	10831	20 Mbps
2	As per master stream file	239.70.70.42	17742	239.70.70.32	10832	6 Mbps
3	As per master stream file	239.70.70.43	17743	239.70.70.33	10833	40 Mbps
4	As per master stream file	239.70.70.44	17744	239.70.70.34	10834	18 Mbps
5	As per master stream file	239.70.70.45	17745	239.70.70.35	10835	40 Mbps
6	As per master stream file	239.70.70.46	17746	239.70.70.36	10836	18 Mbps
7	As per master stream file	239.70.70.47	17747	239.70.70.37	10837	40 Mbps
8	As per master stream file	239.70.70.48	17748	239.70.70.38	10838	40 Mbps
9	As per master stream file	239.70.70.49	17749	239.70.70.39	10839	40 Mbps
10	As per master stream file	239.70.70.50	17750	239.70.70.40	10840	40 Mbps
11	As per master stream file	239.70.70.61	17761	239.70.70.71	10871	40 Mbps
12	As per master stream file	239.70.70.62	17762	239.70.70.72	10872	40 Mbps
13	As per master stream file	239.70.70.63	17763	239.70.70.73	10873	40 Mbps
14	As per master stream file	239.70.70.64	17764	239.70.70.74	10874	40 Mbps
15	As per master stream file	239.70.70.65	17765	239.70.70.75	10875	40 Mbps

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16	As per master stream file	239.70.70.66	17766	239.70.70.76	10876	40 Mbps
17	As per master stream file	239.70.70.67	17767	239.70.70.77	10877	40 Mbps
18	As per master stream file	239.70.70.68	17768	239.70.70.78	10878	40 Mbps

CD						
Stream ID	Contents	Source 1		Source 2 (Delayed Feed)		Approx. bandwidth utilization
		Multicast IP	Port	Multicast IP	Port	
1	As per master stream file	239.80.80.41	18841	239.80.80.31	10831	1.5 Mbps
2	As per master stream file	239.80.80.42	18842	239.80.80.32	10832	1.5 Mbps

CO						
Stream ID	Contents	Source 1		Source 2 (Delayed Feed)		Approx. bandwidth utilization
		Multicast IP	Port	Multicast IP	Port	
1	All Commodity Derivatives Contracts	239.90.90.41	19941	239.90.90.51	19951	60Kbps

C) Recovery of tick by tick data

Tick by tick data is available for recovery on TCP. At the Exchange end the recovery requests are managed and serviced through a setup consisting of a load balancer server and multiple recovery servers. If the client end application misses any tick data, it can recover the missed ticks by sending request on TCP to the server IP provided by the Exchange (segment wise IPs and ports provided below). The response messages will be provided on TCP. The TCP connections for recovering messages are not persistent.

A new connection has to be made for each and every recovery request. The recovery requests are served from file stored in recovery server. Due to this factor, there is a lag / delay in the tick data from recovery servers, as compared to direct multicast feed.

Segment	IP Address	Port
CM	172.28.124.34	10984
FO	172.28.124.30	10990

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CD	172.28.124.32	10970
CO	172.19.125.84	10960

D) Order Snapshot Recovery for Multicast Tick by Tick broadcast

MTBT Order Book Snapshot Recovery Server provides latest picture of the order book, constructed from MTBT feed. This Order Book Snapshot is refreshed every 30 seconds. Client requesting this snapshot recovery will get all the outstanding orders in the order book till the last refresh time for a particular stream.

Parameters for connecting for Order Snapshot Recovery	
IP of Solace	172.28.124.44
Port of Solace	10987
User Name	member_cm_prod
Password	LxJRe#0414
Message VPN Name	od_cm_prod

Segment	Stream ID	QUEUE NAMES
CM	1	lvq.nse.cm.od.1.orderbook
	2	lvq.nse.cm.od.2.orderbook
	3	lvq.nse.cm.od.3.orderbook
	4	lvq.nse.cm.od.4.orderbook
	5	lvq.nse.cm.od.5.orderbook

Parameters for connecting for Order Snapshot Recovery	
IP of Solace	172.28.124.40
Port of Solace	10986
User Name	member_fo_prod
Password	YoEvx#9675
Message VPN Name	od_fo_prod

Segment	Stream ID	QUEUE NAMES
FO	1	lvq.nse.fo.od.1.orderbook
	2	lvq.nse.fo.od.2.orderbook
	3	lvq.nse.fo.od.3.orderbook
	4	lvq.nse.fo.od.4.orderbook
	5	lvq.nse.fo.od.5.orderbook
	6	lvq.nse.fo.od.6.orderbook
	7	lvq.nse.fo.od.7.orderbook
	8	lvq.nse.fo.od.8.orderbook

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	9	lvq.nse.fo.od.9.orderbook
	10	lvq.nse.fo.od.10.orderbook
	11	lvq.nse.fo.od.11.orderbook
	12	lvq.nse.fo.od.12.orderbook
	13	lvq.nse.fo.od.13.orderbook
	14	lvq.nse.fo.od.14.orderbook
	15	lvq.nse.fo.od.15.orderbook
	16	lvq.nse.fo.od.16.orderbook
	17	lvq.nse.fo.od.17.orderbook
	18	lvq.nse.fo.od.18.orderbook

Parameters for connecting for Order Snapshot Recovery	
IP of Solace	172.28.124.42
Port of Solace	10988
User Name	member_cd_prod
Password	48Qd5d
Message VPN Name	od_cd_prod

Segment	Stream ID	QUEUE NAMES
CD	1	lvq.nse.cd.od.1.orderbook
	2	lvq.nse.cd.od.2.orderbook

Important usage guidelines for connecting to Order Book Snapshot recovery:

Members are suggested to use snapshot recovery whenever they have lost large number of ticks on multicast or they have joined the MTBT feed very late. This will reduce the time to recover all the missed ticks through recovery and build the order book up to the latest point.

At the Exchange end the snapshot recovery is disseminated through Solace Application / Hardware. The snapshot recovery needs to be requested by client applications through Solace API. After receiving the snapshot message, the client applications are supposed to disconnect. It is possible that the client applications can get disconnected during recovery of snapshot message, due to snapshot message being refreshed at the Exchange end. In such cases client applications can again try to recover the snapshot message.

Members are expected to use 7.32.0.3 version of SOLACE API which can be downloaded from https://solace.com/downloads/ for best experience.

General Notes applicable for all types of market data broadcast:

- *The size of broadcast indicated above is an estimated approximation and shall change depending upon the market activity. Thus, Market participants are strongly advised to monitor and adequately size their infrastructure and systems while subscribing to these feeds.*

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- *With respect to using Exchange data, Members may kindly take note of Exchange circulars NSE/MSD/64333 dated October 03, 2024, NSE/COMP/56426 dated April 20, 2023 and NSE/MEM/26958 dated June 19, 2014. Exchange data can be used by Member's clients who are registered for trading with the member on the Exchange in any segment.*
- *Members shall be solely responsible for implementing and maintaining redundancy for market data broadcast subscribed from NSEIL. NSEIL shall not be held liable in any manner whatsoever including but not limited to for any disconnection, excess bandwidth utilization, related latency issues' etc. which arises out of the member's decisions on market data broadcast configurations.*
- *National Stock Exchange of India Limited ("NSEIL") strongly recommends its member to build resilience and redundancy in their subscription to market data broadcast provided by NSEIL, to ensure continuity of their business operations. NSEIL has made enabling provisions for members to implement redundancies by providing two sources of data and/or data recovery mechanisms. Members shall be solely responsible for implementing and maintaining redundancy for market data broadcast subscribed from NSEIL. NSEIL shall not be held liable in any manner whatsoever including but not limited to for any disconnection, excess bandwidth utilization, related latency issues' etc. which arises out of the member's decisions on market data broadcast configurations.*

Annexure 3

Members are requested to take note of below advisory and guidance regarding market data broadcast parameters:

A. **Advisory for members subscribing to Price volume (5 depth 1 second refresh), other related data, master updates, market open/close status message broadcast etc.**

- NSEIL has made enabling provisions for members to implement redundancies by providing two sources of data broadcast parameters namely Source 1 and source 2.
- Exchange has provided option for Members to add the broadcast configuration for both sources in the Exchange provided UDP application for windows as well as linux OS.
- Member can configure the sources 1 & 2 in active – active manner / active – passive manner as per their business requirement.
  - Exchange broadcasts the market data on both the sources/channels simultaneously. Members are required to select one of the option
    - Option1 - active-active manner i.e. both the sources/channels are configured at member's end and market data is received by members on both the sources/channels OR
    - Option2 - active-passive manner i.e. both the sources/channels are configured at member's end but market data is received by members on the source which is activated by member.
  - The Exchange has multiple backup systems and processes besides having various checks and balances to ensure proper functioning of the trading systems. However, the possibility of an event where Exchange is not able to broadcast the market data on one of the source/channel cannot be ruled out. Hence, the above action will help members to quickly shift the source at

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their end and mitigate the risk of business disruption in case one of the source/channel goes down.

- o It is strongly recommended that the members build resiliency in their implementation by choosing any of the above-mentioned options. Members shall be solely responsible for implementing and maintaining redundancy for market data broadcast subscribed from the Exchange and Exchange will not be liable for any business disruption at member's end arising due to no action by members.
- For members using Exchange provided UDP application, option is available to members to start / stop the broadcast for all / respective streams as per their convenience in the UDP application keeping in mind the bandwidth requirements of the broadcast streams.
- Manuals for UDP application for Windows as well as Linux are available on Extranet for reference.

B. Advisory for members subscribing to Multicast Tick By Tick Feeds (MTBT)

- The Tick Data broadcast feed provided by the Exchange is available on two separate Multicast Channels (Source 1 and Source 2) for each Stream on active-active basis. On one multicast channel the feed is delayed and lagging behind the other feed. Please refer the captioned circulars for details regarding the Source 1 and Source 2 multicast IP and ports.
- Kindly note that the MTBT data broadcast being on UDP, there can be occasional drops in the broadcasts provided by the Exchange due to the same. It is an expected behaviour.
- It is recommended that the end user application should subscribe to both multicast channels for each stream and receives the data from both the channels in active-active manner. This needs to be done to ensure that data loss is minimized for the receiving applications as there is a possibility of data loss in multicast protocol.
- If the end user application misses any tick data from both the active-active channels it can recover the ticks by sending recovery requests to recovery server on TCP. The recovery requests are served from file stored in recovery server. Due to this factor, there is a lag / delay in the tick data from recovery servers, as compared to direct multicast feed.
- Members are requested to refer the API's for MTBT, wherein we have provided the tuning parameter for receiving MTBT as well as guidelines for recovery.
- Exchange also provides facility for snapshot recovery. Members are suggested to use snapshot recovery whenever they have lost large number of ticks on multicast or they have joined the MTBT feed very late. This will reduce the time to recover all the missed ticks through recovery and build the order book up to the latest point.
- API for MTBT can be accessed from NSE website under the following link: https://www.nseindia.com/trade/platform-services-neat-trading-system-protocols

Relevant Circulars:

Download No.	Date
NSE/MSD/54696	December 02, 2022
NSE/MSD/62785	July 04, 2024
NSE/COM/66509	February 05, 2025