Stocks and Options Order Routing Public Report Generated on Mon Jan 09 2023 06:43:52 GMT-

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4th Quarter, 2022

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S&P 500 Stocks

Non-Marketable
Limit Orders as % of Other Orders as % of Non-Directed
Orders Total Other Orders of Orders
0 0.00 0 0.00 | Market Orders as % of All | Mon-Directed | Market Orders as % of All | Total Mon-Directed | Orders as % of All | Total Market Orders | Orders as % of Non-Directed | Orders | Orders | Orders as % of Non-Directed | Orders | O

												wet Payment		Net Payment		Net Payment			
												Paid/Received for	Net Payment	Paid/Received for	Net Payment	Paid/Received for		Net Payment	
											Net Payment	Market	Paid/Received for	Marketable Limit	Paid/Received for	Non-Marketable	Net Payment	Paid/Received for	
Venue - Non-	Non-Directed	Non-Directed	ı		Marketable Lim	t	Non-Marketable	Non-Marketab	e		Paid/Received for	Orders(cents per	Marketable Limit	Orders(cents per	Non-Marketable	Limit Orders(cents	Paid/Received for	Other Orders(cents	s
directed Ord	er Flow Orders	Orders(%)	Market Orders	Market Orde	rs(%) Orders	Marketable Limit Orders(%)	Limit Orders	Limit Orders(%	Other Orders	Other Orders(%)	Market Orders(USI	hundred shares)	Orders(USD)	hundred shares)	Limit Orders(USD)	per hundred shares) Other Orders(USD)	per hundred shares	.s)
VIRTU Americ	as,																		
LLC(NITE)		14	29.17	14	29.17	0	0.00	0	0.00	0 0	.00	0	0	0	0	0	0	0	0
Citadel Secur	ities																		
LLC(CDRG)		13	27.08	13	27.08	0	0.00	0	0.00	0 0	.00	0	0	0	0	0	0	0	0
Jane Street C	apital,																		
LLC(JNST)		13	27.08	13	27.08	0	0.00	0	0.00	0 0	.00	0	0	0	0	0	0	0	0
G1 Execution																			
Services, LLC	ETMM)	8	16.67	8	16.67	0	0.00	0	0.00	0 0	.00	0	0	0	0	0	0	0	0

October 2022

Non-S&P 500 Stocks

| Non-Directed | Non-

Venues

di	enue - Non- Non-Directe rected Order Flow Orders tadel Securities	ed Non-Direct Orders(%)	ted Market Orders	s Market Ord	Marketable Limers(%) Orders	it Marketable Limit Orders(%)	Non-Marketable Limit Orders	Non-Marketa Limit Orders		Other Orders(Net Payment Paid/Received for %) Market Orders(US	Paid/Received for Market Orders(cents per D) hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Limit Orders(cents	Net Payment Paid/Received for		s
	C(CDRG)	23	37.70	20	36.36	1	33.33	2	100.00	0	0.00	0	0	0	0	0	0	0	0
	Execution rvices, LLC(ETMM)	18	29.51	18	32.73	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0
LL	RTU Americas, C(NITE)	15	24.59	12	21.82	2	66.67	0	0.00	1	100.00	0	0	0	0	0	0	0	0
LL	ne Street Capital, C(JNST) 3S Securities,	4	6.56	4	7.27	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0
	C(UBSS)	1	1.64	1	1.82	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0

October 2022

Option Contracts Summary

Non-Marketable
Limit Orders as % of Other Orders as % of Non-Directed of Non-Directed
Orders Total Other Orders Orders
0 0.00 0 0.00 | Total Non-Directed | Market Orders as % | Market Dries as % of Non-Directed | Orders as % of Non-Directed | Orders as % of Non-Directed | Total Market Dries | Orders as % of Non-Directed | Orders as % of Non-Direct

												Paid/Received for	Net Payment	Paid/Received for	Net Payment	Paid/Received for		Net Payment
											Net Payment	Market	Paid/Received for	Marketable Limit	Paid/Received for	Non-Marketable	Net Payment	Paid/Received for
Venue - Non-	Non-Directed	Non-Directed			Marketable Limit		Non-Marketable	Non-Marketable			Paid/Received for	Orders(cents per	Marketable Limit	Orders(cents per	Non-Marketable	Limit Orders(cents	Paid/Received for	Other Orders(cents
directed Order Flor	w Orders	Orders(%)	Market Orders	Market Orders(%)	Orders	Marketable Limit Orders(%)	Limit Orders	Limit Orders(%)	Other Orders	Other Orders(%)	Market Orders(USD) hundred shares)	Orders(USD)	hundred shares)	Limit Orders(USD)	per hundred shares	Other Orders(USD)	per hundred shares)

November 2022

S&P 500 Stocks Summary

Non-Marketable
Limit Orders as % of Other Orders as %
Non-Directed of Non-Directed Orders Total Other Orders
0 0.00 Ocher | Market Drders as % of Marketable Limit | Orders as % of Marketable | Orders as % of Marketab

Venue - Non- directed Order Flo VIRTU Americas,	Non-Directed w Orders	Non-Directed Orders(%)	Market Orders	Market Orders(%)	Marketable Limit Orders	Marketable Limit Orders(%)	Non-Marketable Limit Orders	Non-Marketable Limit Orders(%)	Other Orders	Other Orders(%)	Net Payment Paid/Received for Market Orders(US		Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Limit Orders(cents	Paid/Received for		
LLC(NITE) Citadel Securities		38	33.04	37 33.0	04	1	100.00	0 0	.00	0 0.	00	0	0	0	0	0	0 0	0	0
LLC(CDRG)		29	25.22	29 25.8	89	0	0.00	0 0	.00	0 0.	00	0	0	0	0	0	0 0	0	0
G1 Execution Services, LLC(ETM!	vi)	23	20.00	23 20.5	54	0	0.00	0 0	.00	0 0.	00	0	0	0	0	0	0 0	0	0
Jane Street Capital LLC(JNST)	,	20	17.39	20 17.8	86	0	0.00	0 0	.00	0 0.	00	0	0	0	0	0	0 0	0	0
Instinet BlockCross(BLKX)		2	1.74	0 0.0	00	0	0.00	0 0	.00	2 100.	00	0	0	0	0	0	0 0	0	0
Two Sigma Securities,																			
LLC(SOHO) UBS Securities,		2	1.74	2 1.7		0	0.00		.00			-	-	0	0		0 0		0
LLC(UBSS)		1	0.87	1 0.8	89	0	0.00	0 0	.00	0 0.	00	0	0	0	0	0	0 0	0	0
November 2022																			
Non-S&P 500 Stock Summary	ks																		
	Non-Directed	_	Market Orders		Marketable Limit		Non-Marketable Limit Orders as %	i of	Other Orders as 9										
Total Non-Directed Orders	Orders	Total Market 0	Orders Orders	d Total Marketable Limit Orders	Directed Orders	Total Non-Marketable Limit Orders	Non-Directed Orders	Total Other Orde	of Non-Directed rs Orders										
Venues	51 100	0.00	58 9	95.08	0 0.0	00	3 4	1.92	0 0	00									
Venue - Non-	Non-Directed	Non-Directed			Marketable Limit		Non-Marketable	Non-Marketable			Net Payment	Net Payment Paid/Received for Market Orders/cents per	Net Payment Paid/Received for Marketable Limit	Net Payment Paid/Received for Marketable Limit Orders(cents per	Net Payment Paid/Received for		Net Payment	Net Payment Paid/Received for	
directed Order Flo		Orders(%)	Market Orders	Market Orders(%)		Marketable Limit Orders(%)	Limit Orders	Limit Orders(%)	Other Orders	Other Orders(%)		D) hundred shares)	Orders(USD)	hundred shares)	Limit Orders(USD)				
LLC(CDRG)		19	29.69	19 32.7	76	0	0.00	0 0	.00	0 0.	00	0	0	0	0	0	0 0	0	0
G1 Execution Services, LLC(ETM)	4)	16	25.00	16 27.5	59	0	0.00	0 0	.00	0 0.	00	0	0	0	0	0	0 0	0	0
VIRTU Americas, LLC(NITE)			17.19	11 18.9		0	0.00		.00	0 0.		0	0	0	0	0	0 0	0	0
Jane Street Capital LLC(JNST)		10	15.63	10 17.2	24	0	0.00	0 0	.00	0 0.	00	0	0	0	0	0	0 0	0	0
NASDAQ Execution Services, LLC(NSDC Choe EDGX US	n 2)	4	6.25	0 0.0	00	0	0.00	4 66	.67	0 0.	00	0	0	0	0	0	0 0	0	0
Equities Exchange(EDGX) Two Sigma		2	3.13	0 0.0	00	0	0.00	2 33	.33	0 0.	00	0	0	0	0	0	0 0	0	0
Securities, LLC(SOHO)		2	3.13	2 3.4	45	0	0.00	0 0	.00	0 0	00	0	0	0	0	0	0 0	n	n
()																			
November 2022 Option Contracts																			
Summary	Non-Directed		Market Orders		Marketable Limit		Non-Marketable Limit Orders as %	i of	Other Orders as 9										
Orders	Orders as % of Al Orders	Total Market 0 0.00	Orders Orders	d Total Marketable Limit Orders 0.00	Directed Orders	Total Non-Marketable Limit Orders	Non-Directed Orders	Total Other Orde		00									
Venues		0.00	U	0.00	0 0.0	30	0 0	2.00	0 0	00									
rendes												Net Payment Paid/Received for	Net Payment	Net Payment Paid/Received for	Net Payment	Net Payment Paid/Received for		Net Payment	
Venue - Non- directed Order Flo	Non-Directed w Orders	Non-Directed Orders(%)	Market Orders	Market Orders(%)	Marketable Limit Orders	Marketable Limit Orders(%)	Non-Marketable Limit Orders	Non-Marketable Limit Orders(%)	Other Orders	Other Orders(%)		Market Orders(cents per D) hundred shares)	Paid/Received for Marketable Limit Orders(USD)	Marketable Limit Orders(cents per hundred shares)	Paid/Received for Non-Marketable Limit Orders(USD)	Non-Marketable Limit Orders(cents	Net Payment Paid/Received for Other Orders(USD)		
December 2022 S&P 500 Stocks																			
Summary	Non-Directed		Market Orders		Marketable Limit		Non-Marketable Limit Orders as %	i of	Other Orders as 9	i									
Total Non-Directed Orders	Orders as % of A Orders	II Total Market 0 0.00	Orders Orders	d Total Marketable Limit Orders 99.33	Orders as % of Non Directed Orders 0 0.0	Total Non-Marketable Limit Orders	Non-Directed Orders	Total Other Orde	of Non-Directed rs Orders 0 0	00									
Venues																			
												Net Payment Paid/Received for		Net Payment Paid/Received for		Net Payment Paid/Received for		Net Payment	
Venue - Non- directed Order Flo Citadel Securities	Non-Directed w Orders	Non-Directed Orders(%)	Market Orders	Market Orders(%)		Marketable Limit Orders(%)	Non-Marketable Limit Orders	Non-Marketable Limit Orders(%)	Other Orders	Other Orders(%)		D) hundred shares)	Paid/Received for Marketable Limit Orders(USD)	Orders(cents per hundred shares)	Paid/Received for Non-Marketable Limit Orders(USD)	Limit Orders(cents per hundred shares	Paid/Received for Other Orders(USD)	per hundred share	s)
LLC(CDRG)		48	31.37	48 32.2	21	0	0.00	0 0	.00	0 0.	00	0	0	0	0	0	0 0	0	0

G1 Execution																		
Services, LLC(ETMM)	43	28.10	43	28.86	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0
VIRTU Americas,																		
LLC(NITE)	38	24.84	38	25.50	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0
Jane Street Capital,																		
LLC(JNST)	19	12.42	19	12.75	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0
Instinet																		
BlockCross(BLKX)	3	1.96	0	0.00	0	0.00	0	0.00	3	100.00	0	0	0	0	0	0	0	0
New York Stock																		
Exchange(NYSE)	1	0.65	0	0.00	0	0.00	1	100.00	0	0.00	0	0	0	0	0	0	0	0
Two Sigma																		
Securities,																		
LLC(SOHO)	1	0.65	1	0.67	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0

December 2022

Non-S&P 500 Stocks

| Summary | Sum

Venues

Venue - Non- Non-Directed directed Order Flow Orders VIRTU Americas,	Non-Directed Orders(%)	Market Orders	Market Order	Marketable Limit s(%) Orders	Marketable Limit Orders(%)	Non-Marketable Limit Orders	Non-Marketab Limit Orders(%		Other Orders(%	Net Payment Paid/Received for Market Orders(US	Net Payment Paid/Received for Market Orders(cents per D) hundred shares)	Net Payment Paid/Received for Marketable Limit Orders(USD)	Net Payment Paid/Received for Marketable Limit Orders(cents per hundred shares)	Net Payment Paid/Received for Non-Marketable Limit Orders(USD)	Net Payment Paid/Received for Non-Marketable Limit Orders(cents per hundred share	Net Payment	Net Payment Paid/Received for Other Orders(cents per hundred share	ts
LLC(NITE)	55	30.56	54	32.93	0	0.00	0	0.00	1 10	0.00	0	0	0	0	0	0	0	0
Citadel Securities LLC(CDRG)	50	27.78	50	30.49	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0
G1 Execution Services, LLC(ETMM) Jane Street Capital,	38	21.11	38	23.17	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0
LLC(JNST)	22	12.22		13.41		0.00	0	0.00		0.00	0	0	0	0	0	0	0	0
NYSE Arca(ARCA)	7	3.89	0	0.00	0	0.00	7	46.67	0	0.00	0	0	0	0	0	0	D	0
NASDAQ Execution Services, LLC(NSDQ) Choe EDGX US Equities	4	2.22	0	0.00	0	0.00	4	26.67	0	0.00	0	0	0	0	0	0	0	0
Exchange(EDGX) Members	3	1.67	0	0.00	0	0.00	3	20.00	0	0.00	0	0	0	0	0	0	0	0
Exchange(MEMX)	1	0.56	0	0.00	0	0.00	1	6.67	0	0.00	0	0	0	0	0	0	0	0

December 2022

Option Contracts

| Non-Direct | Market Orders as V of Non-Directed | Order as V of Non-Directed | Orders as V of Non-Directed | Order as V of Non-Directed | Orders as V of N

Venues

Volume-Nom- Non-Directed directed Order Flow Orders (S) Market Ord