Base Data for MTI | **Ethernet MTI** | **CAN MTI** **CAN Data**

	Has Destination ID	Has Event ID	Flag A	Flag B	Flag C	Flag D	Priority Group	Type	Flag D/Priority/Type		Top 17 bits of CAN header, ddd refers to destination address.	Goes at start of CAN data, if present	
Bits	1	1	1	1	1	1	2	5	8 hex	16 hex	17 bits hex	8 hex	
Base Messages													
Node number Allocate						0	0	0	00	2000			Ethernet Only
No Filtering			1	1	1	0	0	1	01	0017	18017		(Still under discussion)
Initialization Complete			1	1	1	0	0	8	08	0087	18087		Full Source Node ID
Verify Node ID Number	Y					0	0	10	0A	10A4	1Eddd	0A	
Verify Node ID Number			1	1	1	0	0	10	0A	00A7	180A7		
Verified Node ID Number			1	1	1	0	0	11	0B	00B7	180B7		Full Source Node ID
Optional Interaction Rejected	Y					0	0	12	0C	10C4	1Eddd	0C	MTI, error, optional information
Terminate Due to Error	Y					0	0	13	0D	10D4	1Eddd	0D	MTI, error, optional information
Protocol Support Messages													
Protocol Support Inquiry	Y					0	1	14	2E	12E4	1Eddd	2E	
Protocol Support Reply	Y					0	1	15	2F	12F4	1Eddd	2F	Protocol flags
Event Exchange Messages													
Identify Consumer		Y	1	1	1	0	1	4	24	024F	1824F		EventID (no room for DestID!)
Consumer Identify Range		Y	1	1	1	0	1	5	25	025F	1825F		EventID w mask (no room for DestID!)
Consumer Identified		Y	1	1	1	0	1	6	26	026F	1826F		EventID (no room for DestID!)
Identify Producer		Y	1	1	1	0	1	8	28	028F	1828F		EventID (no room for DestID!)
Producer Identify Range		Y	1	1	1	0	1	9	29	029F	1829F		EventID w mask (no room for DestID!)
Producer Identified		Y	1	1	1	0	1	10	2A	02AF	182AF		EventID (no room for DestID!)
Identify Events	Y					0	1	11	2B	12B4	1Eddd	2B	
Identify Events			1	1	1	0	1	11	2B	02B7	182B7		
Learn Event		Y	1	1	1	0	1	12	2C	02CF	182CF		EventID
Producer/Consumer Event Report		Y	1	1	1	0	1	13	2D	02DF	182DF		EventID
Other Messages													
Xpressnet			1	1	1	0	2	17	51	0517	18517		Xpressnet packet
Simple Node Ident Info Request	Y					0	2	18	52	1524	1Eddd	52	
Simple Node Ident Info Reply	Y					0	2	19	53	1534	1Eddd	53	
Datagram Messages													
Datagram (General)	Y					0	2	0	40	1404	1 B/C/D/E ddd		Data (0-8 bytes) (1D in MTI is end of datagram)
Datagram Received OK	Y					0	2	12	4C	14C4	1Eddd	4C	MTI byte
Datagram Rejected	Y					0	2	13	4D	14D4	1Eddd	4D	MTI byte, error code
Stream Messages													
Stream Initiate Request	Y					0	2	14	4E	14E4	1Eddd	4E	MTI byte, buffer size (2 bytes), Source Stream ID (1 byte), reserved byte, flags (tagged=0x80)
Stream Initiate Reply	Y					0	2	15	4F	14F4	1Eddd	4F	MTI byte 0x4B,buffer size (2 bytes), Source Stream ID (1 byte), Dest Stream ID, flags (tagged=0x80; error info)
Stream Data Send	Y					0	3	9	69	1694	1Fddd		(stream IDs inferred on CAN); 8 bytes data
Stream Data Proceed	Y					0	3	10	6A	16A4	1Eddd	6A	MTI byte, Stream IDs (2 bytes)
Stream Data Complete	Y					0	3	11	6B	16B4	1Eddd	6B	MTI byte, Stream IDs (2 bytes); optional length (4 bytes)

CAN Unaddressed message	Bits	Value	
CAN priority	1	1	
Control Type	4	8	
Spare flag D	1	0	
priority	2	0-3	0 get more priority over CAN
type	5	0-31	
Has Event ID	1	0-1	
Spare Flag A	1	1	
Spare Flag B	1	1	
Spare Flag C	1	1	
Data length	DLC	0-8	

Ethernet unaddressed msg	Bits	Value
Length	8	9-17
Protocol Group	3	0
Has destination id	1	0
Spare flag D	1	0
priority	2	0-3
type	5	0-31
Has Event ID	1	0-1
Spare Flag A	1	1
Spare Flag B	1	1
Spare Flag C	1	1

Ethernet addressed msg	Bits	Value
Length	8	15-79
Protocol Group	3	1
Has destination id	1	1
Protocol ID	8	0-255
Not used *	4	4

Places these appear in code: prototypes/C/libraries/OlcbTestCAN/obj/test
prototypes/C/libraries/OlcbCommonCAN/OpenLcbCan.h
prototypes/C/libraries/OpenLCB/OLCB_CAN_Buffer.cpp

prototypes/ObjectiveC/OpenLcbLib/OlcbMtiDefinitions.h
prototypes/ObjectiveC/OpenLcbLib/OlcbTestDefinitions.h
prototypes/ObjectiveC/OpenLcbLib/MtiReformat.c

prototypes/java/src/org/openlcb/can/MessageBuilder.java

prototypes/Arduino/libraries/OpenLCB/OpenLcbCan.h
prototypes/CBUS-PIC/canlib/frametypes.c

* These bits can't be used for messages that need to be sent over CAN