Full MTI Format

	0	1	2	3	4 5	6 7 8 9 10 11	12	13	14	15	
	15	14	13	12	11 10	9 8 7 6 5 4	3	2	1	0	

	Reserved	Reserved	Special	Stream or Datagram	Priority	Type within priority (decimal)	Simple Protocol	Address present	Event# present	Modifier within Priority/Type	Full MTI (Hex)
Number of bits in field:	1	1	1	1	2	5	1	1	1	2	16

CAN

	Priority	Frame-type	CAN Frame Type	CAN-MTI or Destination-alias ("Variable Part") (hex)	Source-alias	CAN Header (hex)	Data-Part {} = optional
	1	1	3	12	12	29	64

Group	Message	Res	Res	Spec	S/D	Pri	Type	SP	AP	EP	Mod	Full MTI	Pri	FT	CAN Frame Type	CAN-MTI / Dest-alias	Source-alias	CAN Header	Data-Part
Basic	Initialization Complete	0	0	0	0	0	8	0	0	0		0100	1	1	1	100	sss	19100sss	Full Source Node ID
	Verify Node ID Number Addressed	0	0	0	0	1	4	0	1	0		0488	1	1	1	488	sss	19488sss	fddd
	Verify Node ID Number Global	0	0	0	0	1	4	1	0	0		0490	1	1	1	490	sss	19490sss	
	Verified Node ID Number	0	0	0	0	0	11	1	0	0		0170	1	1	1	170	sss	19170sss	{Full Source Node ID}
	Optional Interaction Rejected	0	0	0	0	0	3	0	1	0		0068	1	1	1	068	sss	19068sss	fddd, error, optional info
	Terminate Due to Error	0	0	0	0	0	5	0	1	0		00A8	1	1	1	0A8	sss	190A8sss	fddd, error, optional info
Protocol Support	Protocol Support Inquiry	0	0	0	0	2	1	0	1	0		0828	1	1	1	828	sss	19828sss	fddd
	Protocol Support Reply	0	0	0	0	1	19	0	1	0		0668	1	1	1	668	sss	19668sss	fddd, Protocol flags
Event Exchange	Identify Consumer	0	0	0	0	2	7	1	0	1		08F4	1	1	1	8F4	sss	198F4sss	EventID
	Consumer Identify Range	0	0	0	0	1	5	0	0	1		04A4	1	1	1	4A4	sss	194A4sss	EventID with mask
	Consumer Identified w validity unknown	0	0	0	0	1	6	0	0	1	3	04C7	1	1	1	4C7	sss	194C7sss	EventID
	Consumer Identified as currently valid	0	0	0	0	1	6	0	0	1	0	04C4	1	1	1	4C4	sss	194C4sss	EventID
	Consumer Identified as currently invalid	0	0	0	0	1	6	0	0	1	1	04C5	1	1	1	4C5	sss	194C5sss	EventID
	Consumer Identified (reserved)	0	0	0	0	1	6	0	0	1	2	04C6	1	1	1	4C6	sss	194C6sss	EventID
	Identify Producer	0	0	0	0	2	8	1	0	1		0914	1	1	1	914	sss	19914sss	EventID
	Producer Identify Range	0	0	0	0	1	9	0	0	1		0524	1	1	1	524	sss	19524sss	EventID with mask
	Producer Identified w validity unknown	0	0	0	0	1	10	0	0	1	3	0547	1	1	1	547	sss	19547sss	EventID
	Producer Identified as currently valid	0	0	0	0	1	10	0	0	1	0	0544	1	1	1	544	sss	19544sss	EventID
	Producer Identified as currently invalid	0	0	0	0	1	10	0	0	1	1	0545	1	1	1	545	sss	19545sss	EventID
	Producer Identified (reserved)	0	0	0	0	1	10	0	0	1	2	0546	1	1	1	546	sss	19546sss	EventID
	Identify Events Addressed	0	0	0	0	2	11	0	1	0		0968	1	1	1	968	sss	19968sss	fddd
	Identify Events Global	0	0	0	0	2	11	1	0	0		0970	1	1	1	970	sss	19970sss	
	Learn Event	0	0	0	0	1	12	1	0	1		0594	1	1	1	594	sss	19594sss	EventID
	Producer/Consumer Event Report	0	0	0	0	1	13	1	0	1		05B4	1	1	1	5B4	sss	195B4sss	EventID
Other	Xpressnet	0	0	0	0	2	14	0	0	0		09C0	1	1	1	9C0	sss	199C0sss	Xpressnet packet
Ident	Simple Node Ident Info Request	0	0	0	0	3	15	0	1	0		0DE8	1	1	1	DE8	sss	19DE8sss	fddd
	Simple Node Ident Info Reply	0	0	0	0	2	16	0	1	0		0A08	1	1	1	A08	sss	19A08sss	fddd, data bytes
Datagram	Datagram	0	0	0	1	3	2	0	1	0		1C48							
	↳ CAN-Datagram Content (one frame)						"						1	1	2	ddd	sss	1Adddsss	Data (0-8 bytes)
	↳ CAN-Datagram Content (first frame)						"						1	1	3	ddd	sss	1Bdddsss	Data (0-8 bytes)
	↳ CAN-Datagram Content (middle frame)						"						1	1	4	ddd	sss	1Cdddsss	Data (0-8 bytes)
	↳ CAN-Datagram Content (last frame)						"						1	1	5	ddd	sss	1Ddddsss	Data (0-8 bytes)
	Datagram Received OK	0	0	0	0	2	17	0	1	0		0A28	1	1	1	A28	sss	19A28sss	fddd
	Datagram Rejected	0	0	0	0	2	18	0	1	0		0A48	1	1	1	A48	sss	19A48sss	fddd, error code
Stream	Stream Initiate Request	0	0	0	0	3	6	0	1	0		0CC8	1	1	1	CC8	sss	19CC8sss	fddd, buffer size, srcSID
	Stream Initiate Reply	0	0	0	0	2	3	0	1	0		0868	1	1	1	868	sss	19868sss	fddd, buffer size, srcSID
	Stream Data Send	0	0	0	1	3	28	0	1	0		1F88	1	1	7	ddd	sss	1Fdddsss	Data (0-8 bytes)
	Stream Data Proceed	0	0	0	0	2	4	0	1	0		0888	1	1	1	888	sss	19888sss	fddd, srcSID, dstSID
	Stream Data Complete	0	0	0	0	2	5	0	1	0		08A8	1	1	1	8A8	sss	198A8sss	fddd, srcSID, dstSID, { len }
Extra	Node number Allocate	0	0	1	0	0	0	0	0	0		2000	1	1	1	000	sss	19000sss	not carried on CAN
	No Filtering	0	0	1	0	0	1	0	0	0		2020	1	1	1	020	sss	19020sss	(Still under discussion)

General Datagrams need to be fragmented and defragmented into multiple CAN frames.

A Red value in these columns means that it is identical to another value, and should be checked.

f = Flags			Frame
r	r	0 0	Only
r	r	0 1	First
r	r	1 0	Last
r	r	1 1	Middle
r = Send 0, don't check.			

Priority Classes

Description	Priority
Initialization; Error handling	0
Event transfer; Operation responses	1
Operation requests; Bulk data transfer responses	2
Bulk data transfer requests	3

CAN Message Types

Title	R	R	Type	Variable Part (binary)	Source-alias (hex)
Reserved	1	1	0	0bxxxx xxxx xxxx	sss
Global	1	1	1	0bmmmm mmmm **0**mmm	sss
Addressed	1	1	1	0bmmmm mmmm **1**mmm	sss
Datagram Only	1	1	2	0bdddd dddd dddd	sss
Datagram First	1	1	3	0bdddd dddd dddd	sss
Datagram Middle	1	1	4	0bdddd dddd dddd	sss
Datagram Last	1	1	5	0bdddd dddd dddd	sss
Reserved	1	1	6	0bxxxx xxxx xxxx	sss
Stream	1	1	7	0bdddd dddd dddd	sss

Bit Descriptions

Full-MTI bit	Description
14-15	Reserved
13	Special – Operationally special
12	Stream or Datagram – used by Gateways as indication to fragment.
10-11	Priority – indicates gross priority of message.
5-9	Type within priority
4	Simple protocol – (unaddressed) messages to be received by 'simple' nodes.
3	Address present – this message has an address.
2	Event present – this message has an event#.
0-1	Modifier within modifier type – message specific extra information

KEY

r, R – reserved
s, sss, ssss ssss ssss – source alias
d, ddd, dddd dddd dddd – destination alias
x, xxx, xxxx xxxx xxxx – undefined field

		Full MTI (Hex)	Data		CAN Header (hex)	Data-Part { } = optional
		General		**CAN**		
	Number of bits in field:	16	many		29	64
Basic	Initialization Complete	0100	Source	Initialization Complete	19100sss	Full Source Node ID
	Verify Node ID Number Addressed	0488	Destination, Source	Verify Node ID Number Addressed	19488sss	fddd
	Verify Node ID Number Global	0490	Source	Verify Node ID Number Global	19490sss	
	Verified Node ID Number	0170	Source	Verified Node ID Number	19170sss	{Full Source Node ID}
	Optional Interaction Rejected	0068	Destination, Source, error, optional	Optional Interaction Rejected	19068sss	fddd, error, optional info
	Terminate Due to Error	00A8	Destination, Source, error, optional	Terminate Due to Error	190A8sss	fddd, error, optional info
Protocol Support	Protocol Support Inquiry	0828	Destination, Source	Protocol Support Inquiry	19828sss	fddd
	Protocol Support Reply	0668	Destination, Source, Protocol flags	Protocol Support Reply	19668sss	fddd, Protocol flags
Event Exchange	Identify Consumer	08F4	EventID, Source	Identify Consumer	198F4sss	EventID
	Consumer Identify Range	04A4	EventID with Mask, Source	Consumer Identify Range	194A4sss	EventID with mask
	Consumer Identified w validity unknown	04C7	EventID, Source	Consumer Identified w validity unknown	194C7sss	EventID
	Consumer Identified as currently valid	04C4	EventID, Source	Consumer Identified as currently valid	194C4sss	EventID
	Consumer Identified as currently invalid	04C5	EventID, Source	Consumer Identified as currently invalid	194C5sss	EventID
	Consumer Identified (reserved)	04C6	EventID, Source	Consumer Identified (reserved)	194C6sss	EventID
	Identify Producer	0914	EventID, Source	Identify Producer	19914sss	EventID
	Producer Identify Range	0524	EventID with Mask, Source	Producer Identify Range	19524sss	EventID with mask
	Producer Identified w validity unknown	0547	EventID, Source	Producer Identified w validity unknown	19547sss	EventID
	Producer Identified as currently valid	0544	EventID, Source	Producer Identified as currently valid	19544sss	EventID
	Producer Identified as currently invalid	0545	EventID, Source	Producer Identified as currently invalid	19545sss	EventID
	Producer Identified (reserved)	0546	EventID, Source	Producer Identified (reserved)	19546sss	EventID
	Identify Events Addressed	0968	Destination, Source	Identify Events Addressed	19968sss	fddd
	Identify Events Global	0970	Source	Identify Events Global	19970sss	
	Learn Event	0594	EventID, Source	Learn Event	19594sss	EventID
	Producer/Consumer Event Report	05B4	EventID, Source	Producer/Consumer Event Report	195B4sss	EventID
Other	Xpressnet	09C0	Source, Xpressnet packet	Xpressnet	199C0sss	Xpressnet packet
Ident	Simple Node Ident Info Request	0DE8	Destination, Source	Simple Node Ident Info Request	19DE8sss	fddd
	Simple Node Ident Info Reply	0A08	Destination, Source, Data bytes	Simple Node Ident Info Reply	19A08sss	fddd, data bytes
Datagram	Datagram Content	1C48	Destination, Source, Data bytes	CAN-Datagram Content (one frame)	1Adddsss	Data (0-8 bytes)
				CAN-Datagram Content (first frame)	1Bdddsss	Data (0-8 bytes)
				CAN-Datagram Content (middle frame	1Cdddsss	Data (0-8 bytes)
				CAN-Datagram Content (last frame)	1Ddddsss	Data (0-8 bytes)
	Datagram Received OK	0A28	Destination, Source	Datagram Received OK	19A28sss	fddd
	Datagram Rejected	0A48	Destination, Source, Error code	Datagram Rejected	19A48sss	fddd, error code
Stream	Stream Initiate Request	0CC8	Destination, Source, Buffer size	Stream Initiate Request	19CC8sss	fddd, buffer size, srcSID
	Stream Initiate Reply	0868	Destination, Source, Buffer size	Stream Initiate Reply	19868sss	fddd, buffer size, srcSID
	Stream Data Send	1F88	Destination, Source, Data bytes	Stream Data Send	1Fdddsss	Data (0-8 bytes)
	Stream Data Proceed	0888	Destination, Source, ID	Stream Data Proceed	19888sss	fddd, srcSID, dstSID
	Stream Data Complete	08A8	Destination, Source, ID, {len}	Stream Data Complete	198A8sss	fddd, srcSID, dstSID, { len }
Extra	Node number Allocate	2000	Source			
	No Filtering	2020	Source			