



FCA System Manual – MAR320A

2020.10.26




FCA System Composition : Front Radar included

■ System composition: Radar +DAS System based on camera sensor

	Component	EA	비고
①	Front camera 	1	
②	Front Radar 	1	MAR320A

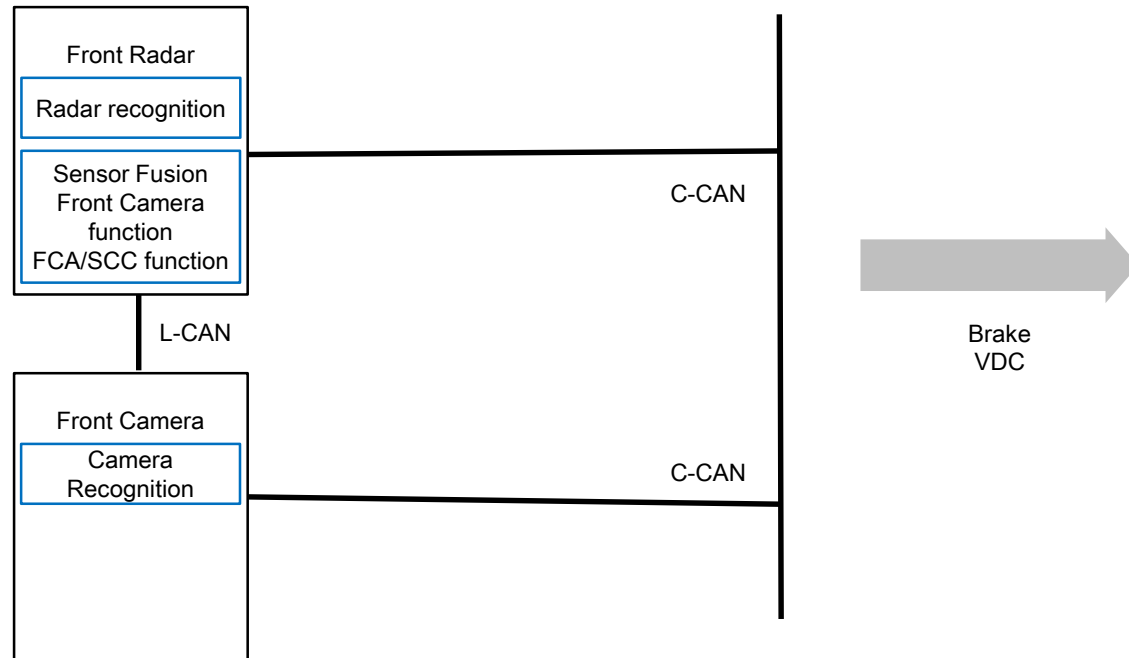


■ System Work Concept

	Recognition and Identification	Sensor fusion and Control	Actuation
 Front Camera	Recognize object Estimate Distance Categorize Object		
 Front Radar	Recognize object Estimate Distance	Sensor Fusion SCC/FCA Control HDA/LFA Control	
 Actuator			Acceleration/Deceleration Steering

FCA System Composition


- CAN Composition per controller



Cluster display under FCA mode



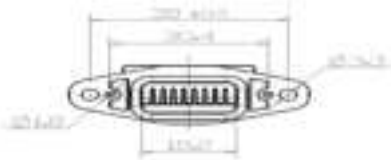
구분	Warning Messages
Dashboard Images	<div data-bbox="602 358 851 644"><p>Caution for front 전방주의</p></div> <div data-bbox="878 358 1127 644"><p>Caution for collision 추돌주의</p></div> <div data-bbox="1154 358 1402 644"><p>Emergency Braking 긴급제동</p></div> <div data-bbox="1429 358 1678 644"><p>Emergency Braking OFF 긴급제동 종료</p></div>
Explanation	Warning from first step to three step warning message + OFF


8Hz
recurring
sound


8Hz
recurring
sound


Continual
sound

Specification – MAR320A

	Type A: Connector detachable type	Type B: Connector fixed type																														
Outline																																
Note	This device supports 2 type according with connector.																															
Spec	Voltage : 12V, Operating Frequency : 76 ~ 77GHz																															
Output power (Average)	Long Distance : 26.99 dBm (Including Tolerance) Short Distance : 23.54 dBm (Including Tolerance)																															
Connector Arrangement	<div><p>※ View of Unit conjunction interface</p></div> <table><tr><th>No.</th><th>Signal</th><th>Signal Name</th><th>No.</th><th>Signal</th><th>Signal name</th></tr><tr><td>1</td><td>Battery</td><td>Power Wire</td><td>5</td><td>-</td><td>-</td></tr><tr><td>2</td><td>-</td><td>-</td><td>6</td><td>V_CAN-L</td><td>Vehicle CAN-L</td></tr><tr><td>3</td><td>V_CAN-H</td><td>Vehicle CAN-H</td><td>7</td><td>P_CAN-L</td><td>Private CAN-L</td></tr><tr><td>4</td><td>P_CAN-H</td><td>Private CAN-H</td><td>8</td><td>GND</td><td>System GND</td></tr></table>		No.	Signal	Signal Name	No.	Signal	Signal name	1	Battery	Power Wire	5	-	-	2	-	-	6	V_CAN-L	Vehicle CAN-L	3	V_CAN-H	Vehicle CAN-H	7	P_CAN-L	Private CAN-L	4	P_CAN-H	Private CAN-H	8	GND	System GND
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USA

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. CAUTION TO USERS Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure Statement (MPE)

The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Canada

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : 1) L'appareil ne doit pas produire de brouillage; 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

RF Exposure Statement (MPE)

The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times. This device must not be co-located or operating in conjunction with any other antenna or transmitter.