

Product Catalog:

GPS/Cellular Messenger Intelligent GPS Mobile Sensor with Integrated Cellular Transceiver

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How to Use this Catalog

This catalog is designed to help you prepare quotations and purchase orders for Trimble Wireless Systems products. To meet customer needs, you typically need to select and specify a particular system configuration, identifying the accessories required to use the receiver effectively.

The catalog provides an overview of the product line followed by a list of all component parts, sample receiver configurations and base station software requirements, cable assembly drawings and the current price list.

Objective

The objective of this product catalog is to provide useful information about ordering Trimble products. Having organized and complete product information enables sales and reseller staff to write more accurate and complete quotations for their customers. Better quotations lead to more accurate customer purchase orders. With more accurate purchase orders there are likely to be fewer processing delays within Order Administration, manufacturing and pack-out are completed quicker, and packing errors are reduced. As a result, customers receive products meeting their needs and receive them when they want them.

Notes

1.

2.



GPS/Cellular Messenger

The GPS/Cellular Messenger intelligent GPS mobile sensor integrates GPS and cellular technology into an easy-to-install, plug-and-play solution. Capitalizing on its extensive experience in public sector AVL (with dozens of solutions), Trimble has turned its field-proven AVL building blocks into an affordable solution for commercial fleets.

Using a state-of-the-art Trimble GPS receiver, Messenger delivers location information and vehicle status in any weather, anywhere a vehicle travels. To provide fast and reliable communications, Messenger includes a 3-watt, AMPS-compatible cellular telephone and modem. In addition, Messenger uses application firmware specifically designed for commercial fleets.

Security: Messenger is ideal for enhanced driver and cargo security. Four switch-closure inputs connect to a variety of security peripherals such as silent alarms and rear door sensors. When these switch closures are activated, vehicle status and location are immediately sent to an operations center. Once this occurs, four output drivers are available to remotely activate other security peripherals like sirens and ignition lock-out. They can also activate a vehicle's electric door locks. Along with these features, Messenger supports Time/Distance Reporting (TDR) and region entry/exit reporting. Messenger is also small enough to mount discreetly in any vehicle.

Accountability: Messenger can store up to 3000 positions and events. This data is accessible at any time, either over-the-air or through Messenger's serial port. This data provides complete location history, which improves route training and verification. It also enhances customer service by verifying when and where a vehicle has traveled.

Efficiency: Messenger can be upgraded to support a handset for voice communications. By providing only one cellular number for both voice and data (vehicle location and status), Messenger ensures cost-effective communications. Cellular usage can be further minimized by limiting calls to pre-programmed numbers.

Fleet Management Software: Managing Messenger-equipped fleets requires sophisticated software. Trimble's FleetVision for Windows software (or software available from Trimble VARs) delivers that capability. FleetVision software is cost-effective for commercial fleets and is easy-to-install and use. A few clicks of the mouse are all it takes to view vehicle locations on a map display.

Messenger has a number of other features that streamline fleet operations, including a power management option--shutting down non-essential components when a vehicle is not in operation. It also supports cellular PIN codes which are used by cellular carriers to combat fraud.

Remarkably flexible, Messenger supports a wide variety of commercial fleet applications, including high-value cargo tracking, stolen-vehicle recovery, messaging, data collection, and more. An authorized Trimble reseller can help determine the best configuration for any application.

By incorporating security, accountability, efficiency, and more into one mobile sensor, Trimble delivers the most advanced, intelligent communications sensor available to commercial fleet owners.



Source: GPS/Cellular Messenger Data Sheet TID 10812 (2/97)



GPS/Cellular Messenger TAIP Messages

The Trimble ASCII Interface Protocol (TAIP) is a Trimble-specified digital communication interface based on printable ASCII characters over a serial data link. TAIP was designed specifically for mobile positioning applications but has become common in a number of other applications because of its ease of use. TAIP supports both scheduled and polled responses from the Messenger.

For communication robustness, the TAIP protocol optionally supports checksums on all messages. It also provides the user with the option of tagging all messages with the unit's user defined identification number (ID). This enhances the functional capability of the unit in a network environment. In addition, given the printable ASCII format of all communication, TAIP is ideal for use with mobile data terminals, seven bit modems and portable computers. The table below lists the TAIP messages supported by the Messenger firmware release 4.13 and above.

Message	Description
AM	Alarm
CS	Connect Status
DA	Destination Address
DL	Data Logging
DS	Dial String
ED	Event Define
EL	Event Report (Long Format)
EV	Event Report
FR	Flag Register
GR	Region
ID	Vehicle ID
IP	Initial Position
LN	Long Naviation Message
PM	Power Management
PV	Position/Velocity Solution
PW	Password
RM	Reporting Mode
RT	Reset
SS	Signal Status
ST	Status
TD	Time and Distance Reporting
TM	Time/Date
TX	Text Message
VA	Authorized Voice Number
VC	Voice Command
VR	Version Number
X2	Extended Diagnostics Message 2
X3	Extended Diagnostics Message 3



Catalog

GPS/Cellular Messenger

Product	Ordering Details	Accessories supplied	Accessories need to purchase separately
Messenger - 26243-10	Communications Protocols: Circuit Switched AMPS Order: 26243-00 Unit Part No.: 26243-10 (on back of unit)	1 x Power & I/O Cable	1 x FOG Bulkhead GPS Antenna Bundle (24129-20) OR 1 x FOG Magnetic Mount GPS Antenna (23527-30)) 1 x Voice Upgrade Kit (31106-00) 1 x RS-232 Cable (31585) Reseller should source cellular antennas from third parties
Messenger - 26243-20	Communications Protocols: Circuit Switched AMPS Order: 26243-00 Unit Part No.: 26243-20 (on back of unit)	1 x Power & I/O Cable	1 x Mini Bulkhead GPS Antenna Bundle (31604-00, 32442-00, 32456-00 or 32455-00) OR 1 x Mini Magnetic Mount GPS Antenna (31584) 1 x Voice Upgrade Kit (31106-00) 1 x RS-232 Cable (31585) for local configuration Reseller should source cellular antennas from third parties
Messenger - 26243-20 (8800)	Communications Protocols: Circuit Switched AMPS Order: 26243-00 Unit Part No.: 26243-20 (8800) (on back of unit)	1 x Power & I/O Cable	1 x Mini Bulkhead GPS Antenna Bundle (31604-00, 32442-00, 32456-00 or 32455-00) OR 1 x Mini Magnetic Mount GPS Antenna (31584) 1 x Voice Upgrade Kit (31106-00) 1 x RS-232 Cable (31585) for local configuration Reseller should source cellular antennas from third parties



GPS/Cellular Messenger Product Catalog

Optionally, resellers may order the mini bulkhead antennas (31192-00 and 32434) without cables and source cables from third parties, as long as the cables meet Trimble specifications.



GPS/Cellular Messenger with Voice

Product	Ordering Details	Accessories supplied	Accessories need to
Messenger with Voice	Communications Protocols: Circuit Switched AMPS Order: 31107-00 Includes Unit Part No.: 26243-20, or -20 (8800) (on back of unit)	1 x Power & I/O Cable 1 x Cellular Handset 1 x Voice Installation Kit 1 x RJ-45 Connector 1 x Filter 2 x Stuffer Caps	purchase separately 1 x Mini Bulkhead GPS Antenna Bundle (31604-00, 32442-00, 32456-00 or 32455-00) OR 1 x Mini Magnetic Mount GPS Antenna (31584) 1 x RS-232 Cable (31585) Reseller should source cellular antennas and handset
Messenger Handset	Communications Protocols: Circuit Switched AMPS Order: 31106-00 Upgrades Unit Part No.: 26243-10, -20, or -20 (8800) to Voice Operation	1 x Cellular Handset 1 x Voice Installation Kit 1 x RJ-45 Connector 1 x Filter 2 x Stuffer Caps	Reseller should source cellular antennas and handset mounts from third parties



Base Station Software

Product	Ordering Details	Accessories supplied	Accessories need to purchase separately
FleetVision 2.1 For Windows (ETAK)	FleetVision Version 2.0 for Windows with ETAK maps Order: 31600-10	1 x FleetVision Software CD 3 x ETAK Maps for USA 1 x Training Manual	Depending on type of communications network used, need to purchase the following third party equipment:
AVL			For Placer 45x/CDPD: CDPD Modems For Placer 45x/MAP27: MAP27 Base Radio For Messenger: Hayes compatible Bell 212A modem(s)
FleetVision 2.1 For Windows (MapInfo)	FleetVision Version 2.0 for Windows with MapInfo support Order: 31600-20	1 x FleetVision Software CD 1 x Training Manual	Depending on type of communications network used, need to purchase the following third party equipment:
AVL			For CDPD: CDPD Modems For MAP27: MAP27 Base Radio For Messenger: Hayes compatible Bell 212A modem(s)
			Maps for the region, contact MapInfo: USA: Tel:800.327.8627 Internet: www.mapinfo.com Email: sales@mapinfo.com
			Overseas: See web site for regional sales offices Internet: www.mapinfo.com



Miniature GPS Antenna Bundles - For Messenger Units 26243-20 and 26243-20 (8800)

Product	Ordering Details	Accessories supplied	Accessories need to purchase separately
Mini. Bulkhead GPS Ant. (gasket/flange) Bundles	5m Cable TNC to SMB Straight TNC order: 31604-00 Right angle TNC	1 x Min B/Head Ant. w/ flange 1 x Cable (see ordering details)	none
	order: 32442-00 Custom Cable: see cable specifications below.		
Mini. Bulkhead GPS Ant. (gasket) Bundles	5m Cable TNC to SMB Straight TNC order: 32456-00	1 x Min B/Head Ant. w/o flange 1 x Cable (see ordering details)	none
	Right angle TNC order: 32455-00 Custom Cable see cable specifications below.		
Maximum Panel Thickness = 3/16" (0.1875")			
Mini. Magnetic GPS Ant.	5m Cable, NOT CE READY order: 31584	none	none



Miniature GPS Antenna Separates - For Messenger Units 26243-20 and 26243-20 (8800)

Product	Ordering Details	Accessories supplied	Accessories need to purchase separately
Mini. Bulkhead GPS Ant. (gasket/flange)	Order: 31192-00 Reseller Provided Custom Cable: see cable specifications below.	1 x Min B/Head Ant. w/ flange and gasket	1 x Cable (see specifications)
Mini. Bulkhead GPS Ant. (gasket) Bundles	Order: 32434 Reseller Provided Custom Cable: see cable specifications below.	1 x Min B/Head Ant. w/o flange but with gasket	1 x Cable (see specifications)
Maximum Panel Thickness = 3/16" (0.1875")			
Mini. Magnetic GPS Ant.	5m Cable, NOT CE READY order: 31584	none	none



Miniature GPS Antennas & Cable (Separates)

For Messenger Units 26243-20 and 26243-20 (8800)

NOTE: If is insufficient space between mounting surface & headliner due to the TNC connectors then use FOG antennas.

1	Miniature Bulkhead GPS Antenna TNC (with gasket and flange, no cable)	31192-00
2	Miniature Bulkhead GPS Antenna TNC (with gasket, no cable or flange)	32434
3	Straight 5m Cable TNC to SMB	30893
4	Right Angle 5m Cable TNC to SMB	31193
5	Miniature Magnetic Mount GPS Antenna (5m cable) NOT CE READY	31584

Miniature GPS Bulkhead Antenna Bundles

For Messenger Units 26243-20 and 26243-20 (8800)

1	Miniature Bulkhead GPS Antenna Bundle (5m ST cable/gasket/flange)	31604-00
2	Miniature Bulkhead GPS Antenna Bundle (5m RT cable/gasket/flange)	32442-00
3	Miniature Bulkhead GPS Antenna Bundle (5m ST cable/gasket)	32456-00
4	Miniature Bulkhead GPS Antenna Bundle (5m RT cable/gasket)	32455-00



FOG GPS Antenna Bundles - For Messenger Units 26243-10

Product	Ordering Details	Accessories supplied	Accessories need to
Fog GPS Bulkhead Ant.	With 6m Cable Order: 24129-20	1 x FOG B/Head Ant. w/ flange and gasket 1 x Cable	purchase separately 1 x Right angle adaptor (if necessary)
Fog GPS Magnetic Ant.	5m Cable order: 23527-30	none	none



FOG GPS Antenna Separates - For Messenger Units 26243-10

Product	Ordering Details	Accessories supplied	Accessories need to
			purchase separately
Fog GPS Bulkhead Ant.	Without Cable order: 24129-00 6m Cable only: SMA(M)-SMB(F) RG316 6m order: 23529 OR Reseller Provided Custom Cable: see cable specifications below	1 x FOG B/Head Ant. with flange and gasket	1 x right angle adaptor (if necessary)
Fog GPS Magnetic Ant.	5m Cable order: 23527-30	none	none

FOG GPS Antennas & Cable

1	Fog GPS Antenna, Bulkhead Mount w/ flange 6m Cable	24129-20
2	Fog GPS Antenna, Bulkhead Mount	24129-00
3	Fog GPS Antenna, Magnetic Mount, 5m	23527-30
4	Cable Assembly SMA(M)-SMB(F)RG316 6m	23529
5	Right Angle Adaptor	22380



Miniature Bulkhead GPS Antenna Cable Specifications

Cable	RG316/U, Teflon Jacket 42dB/100ft. Nominal Attenuation @ 1.5GHz
Connector: To Placer	SMB, Female, Gold Plated (AMP p/n 414170-1 or 414091-1)
Connector: To Antenna	TNC, Male, Straight Plug, Gold Plated (AMP p/n 222506-5) or TNC, Male, Right Angle Plug, Gold Plated (AMP p/n 414173-3)
Max Cable Loss	< 10dB
Max Cable Length	< 7m (24 ft.)
Vendor	DC Electronics

FOG Bulkhead GPS Antenna Cable Specifications

Cable	RG316/U, Teflon Jacket 42dB/100ft. Nominal Attenuation @ 1.5GHz
Connector: To Placer	SMB, Female, Gold Plated (AMP p/n 414170-1 or 414091-1)
Connector: To Antenna	SMA, Male, Straight Plug, Gold Plated (OMNI-SPECTRA 2031-5012-02 or equivalent) or SMA, Male, Right Angle Plug, Gold Plated (RADIALL R125771-001 or equivalent)
Max Cable Loss	< 10dB
Max Cable Length	< 7m (24 ft.)
Vendor	DC Electronics



GPS/Cellular Messenger Packaged Systems

For pilot programs and quick starts, GPS/Cellular Messenger Packaged Systems may be best. They come with all the cables and base station software.

1 GPS/Cellular Messenger Starter System (Etak) 33794-00
or GPS/Cellular Messenger Starter System (MapInfo) 33795-00
or GPS/Cellular Messenger Development System 33796-00
or GPS/Cellular Messenger Gold System (Etak) 33798-00
or GPS/Cellular Messenger Gold System (MapInfo) 33799-00

Packaged Systems include:

p/n	Item	33794-00	33795-00	33796-00	33798-00	33799-00
26243-00	1 x GPS/Cellular Messenger	√	$\sqrt{}$	V	V	V
31106-00	1 x Voice Upgrade Kit	V	V	V	V	V
31584	1 x Mini Mag Mount GPS Antenna 5m cable	V	V	V	V	V
27351	1 x Mag Mount Cellular Antenna 3m cable	V	V	V	V	V
31585	1 x Messenger RS-232 DB9 Straight-Through M to F 1.8m (6ft)	√	V	√	V	V
31600-10	1 x FleetVision for Windows Ver 2.1 + ETAK (on CD) Includes US maps (3 CDs)	√			V	
31600-20	1 x FleetVision for Windows Ver 2.1 + MapInfo (on CD) NO MAPS included.		V			V
28364-00	GPS/Cellular Messenger SDK			V		
26991-00	GPS/Cellular Messenger Installation & Operations Manual (Rev A, June 1995)	V	V	√ 	V	√
NOTE:	The manual (and updates) will be available on TRIMBLE's FTP site.					



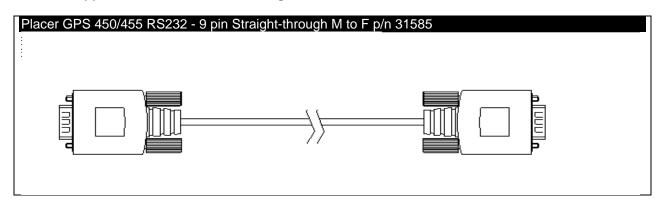
GPS/Cellular Messenger : Replacement Items

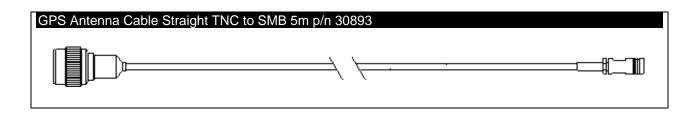
1	Mini Bulkhead GPS Antenna TNC (gasket/ flange, no cable)	31192-00
2	Mini Bulkhead GPS Antenna TNC (gasket, no cable or flange)	32434
3	Mini Bulkhead GPS Antenna Straight cable TNC to SMB, 5m	30893
4	Mini Bulkhead GPS Antenna Right Angle cable TNC to SMB, 5m	31193
5	Mini Magnetic Mount GPS Antenna, 5m Cable NOT CE READY	31584
6	FOG Bulkhead GPS Antenna with flange/gasket	24129-00
7	FOG Bulkhead GPS Antenna cable	23529
8	FOG Magnetic Mount GPS Antenna	23527-30
9	GPS/Cellular Messenger Handset	30587
10	GPS/Cellular Messenger Voice Installation Kit	30588-00
11	RS-232 DB9 Straight-Through M to F 1.8m (6ft)	31585
12	GPS/Cellular Messenger Power & I/O Cable 0.9m (3ft)	27231

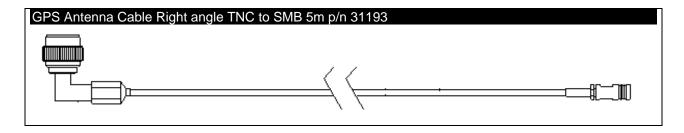


Cables

NOTE: For detailed drawings please refer to Placer GPS 450/455 Installation & Operations Manual, Appendix B: Mechanical Drawings.









Trimble FTP Site

How to get to it ftp.trimble.com\pub\tracking\

What you will find The ...\tracking\ area uses product name to group the information, as follows:

...\readme.txt = general information about what's available

...\contents.txt = what each sub-dir contains

...\fleetvision = Product: FleetVision for WindowsTM

...\placer = Products: PlacerTM GPS 450/455/455DR

...\messenger = Product: GPS/Cellular Messenger

...\general = General information that applies to all products

Under each product, you will find some or all of the following topics:

...\readme.txt = general information about what's available

...\contents.txt = what each sub-dir contains

...\faq = Frequently asked questions

...\doc = Documentation, including manuals & application notes

...\software = Updates and patches

...\util = Program Utilities

...\demo = Demonstration programs, if any are available



Sample GPS/Cellular Messenger Configuration

NOTE: For first time buyers (qualified resellers), GPS/Cellular Messenger Packaged Systems may be best.

1 **GPS/Cellular Messenger** 26243-00

31107-00 **GPS/Cellular Messenger with Voice** or

Note: Includes Power & I/O Cable.

2	Miniature Bulkhead Mount Antenna Bundles	w/Flange	w/o Flange
	Antenna + Cable Straight, TNC to SMB, 5m	31604-00	32456-00
	or Antenna+ Cable Right Angle, TNC to SMB, 5m	32442-00	32455-00
	Note: Use Antenna with Flange if mounting surface thicker than 1/10 inch		
	Note: Use cable with right-angle TNC if insufficient space between mounting surface and headliner		
	Note: If insufficient space between mounting surface & headliner then use Bulkhead Fog antenna bundle p/n=24129-20 (inc. 6m cable)		
or	Miniature Magnetic Mount Antenna 5m Cable	31584	

Note: Not approved for CE countries

3 Messenger Cable, includes: 31585

1 x RS-232, DB9 Straight-Through M to F, 1.8m

Note: Customer can get the RS232 cables locally at computer store.

4 **GPS/Cellular Messenger Installation & Operations Manual** 26991-00

Note: Recommend one per customer/reseller.

Note: The manual will be available on Trimble FTP site.

MN-MCTLG.DOC Rev A Page 21 May 1997



Customer supplied Accessories & Services

1 Automotive Peripherals Many suppliers

2 Cellular Antennas Many suppliers



Sample FleetVision for Windows Configuration

NOTE: For first time buyers (qualified resellers), GPS/Cellular Messenger Packaged Systems may be best.

1 FleetVision for Windows Version 2.1 + ETAK (on CD) 31600-10

includes US Maps (3xCDs)

or FleetVision for Windows Version 2.1 + MapInfo (on CD) 31600-20

DOES NOT include any maps

2 FleetVision for Windows Version 2.0 User's Manual Not available

FleetVision for Windows Version 2.0 Training Manual 31191-00

Customer supplied Accessories & Services

1 Customer using CDPD Network:a) Peer to Peer Configuration:

Need CDPD modem

See Placer GPS 450, section: Customer supplied Accessories & Services for modem details

Need IP Address

Need IP addresses fro both CDPD modems - available from the CDPD network provider.

Need WINSOCK

- ⇒ TRUMPET from Trumpet International
- ⇒ NEWT from NetManage Inc
- ⇒ PCSI Winsock from PCSI
- ⇒ Reflections from Walker Richer & Quinn Inc.

The CDPD modem supplier may also supply a WINSOCK, check modem documentation.

- b) Leased/ISDN Line to the CDPD Service Provider
 - Need Leased/ISDN Line
 - Need Leased Line Modem/ISDN Modem
 - Need WINSOCK

c) Accessing CDPD Network via Internet

• Need Account with Internet Service Provider

Need an IP address

 Need software to access the Internet inc. WINSOCK

Supplied by ISP

Need Hayes compatible Modem

Need Telephone Line



GPS/Cellular Messenger Product Catalog

2	Customer using MAP27 Network:				
		PRM80 (with RS422 converter to RS232)			
		040 with firmware V5.10+, need a 15pin to 3232 cable			
3	Customer using Circuit Switched AMPS	_			
	Need modem	Any Hayes compatible Bell 212A modem (per serial port)			
	Serial Expansion Ports (optional)	DigiCHANNEL™ PC/8 from DigiBoard - 8 serial port expansion board			
4	Customer using MapInfo mapping System: Need MapInfo Maps for the desired region	MapInfo HQ - USA Tel:800.327.8627 www.mapinfo.com			
	Note: MapInfo markets its products in 59 different countries, check your region for a local office.	email: sales@mapinfo.com			



Trimble Order Forms



Promotional Items Order Form

Please call or fax:

+1-800-827-8000 in North America

+1-408-481-8000 International

Fax: +1-408-481-7781



Literature Order Form

Please call or fax:

+1-800-827-8000 in North America

+1-408-481-8000 International

Fax: +1-408-481-7781