Stardust – SD Series

Tactical Multi-Channel L-Band SATCOM Radio

SD - 100 Handheld

95mm

14mm   57mm

commcrete
Stardust

SD-100

SD - 301 HQ

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STARDUST
SD-301

H 44mm   W 482mm   D 250mm

SD - 200 Mobile

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Stardust

100mm

145mm

AUDIO   SD-200   ON

CH   RX/TX
CH   COM

S.O.S   OFF
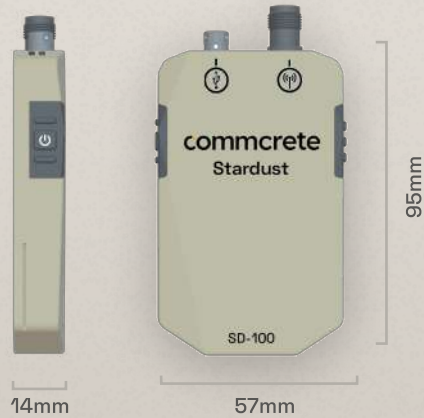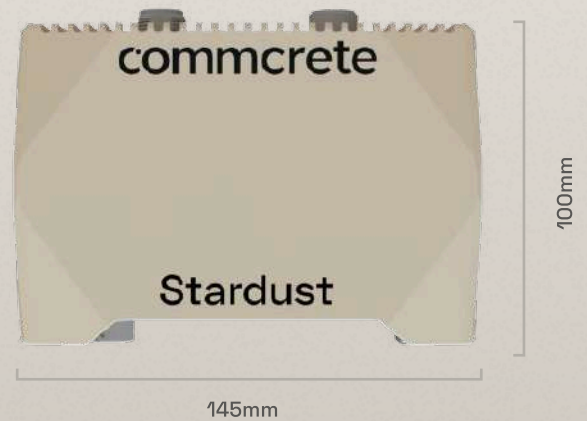
43mm

Stardust by Commcrete is a compact, tactical multi-channel L-Band two-way satellite radio, designed for reliable connectivity beyond the line-of-sight range networks.
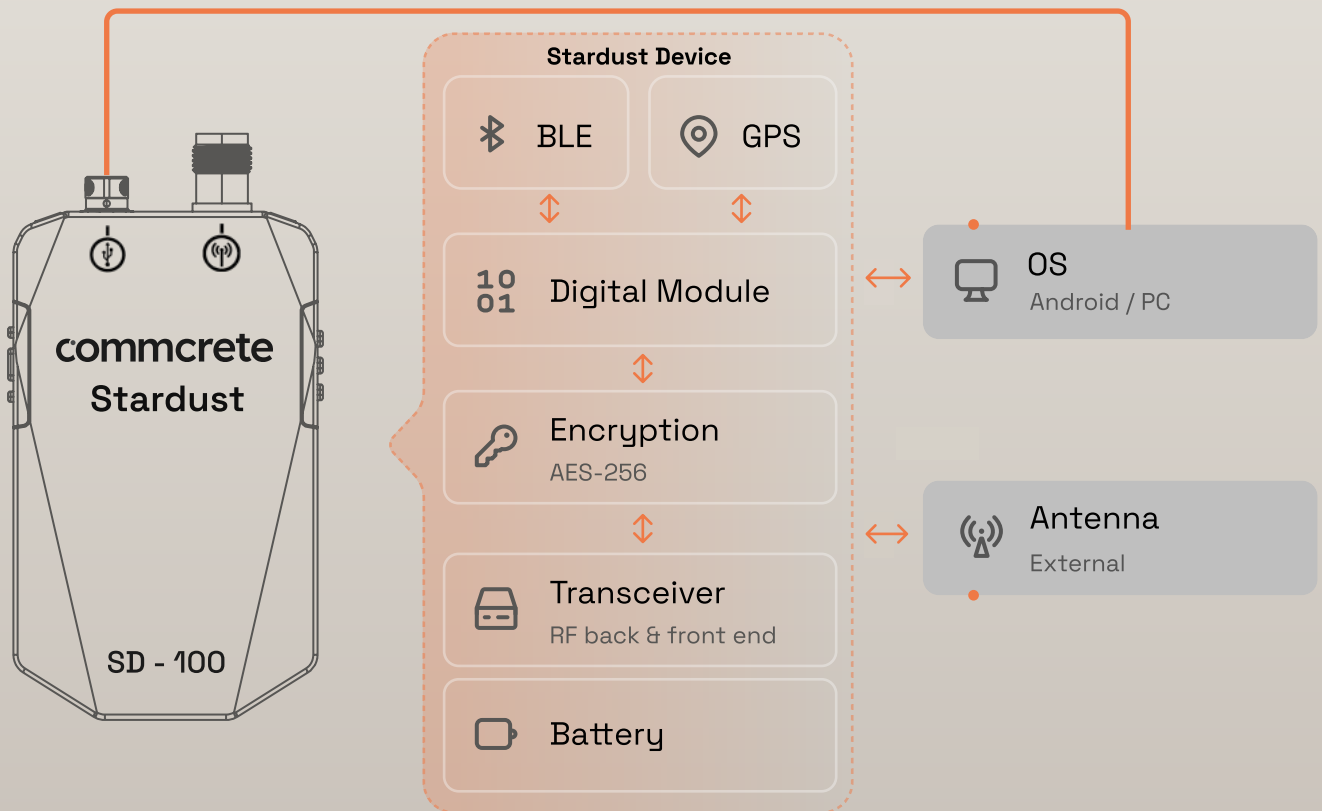
Stardust provides Data, Text, GPS (Blue Force Tracking), SOS and PTT Voice communication over satellite, allowing multiplex reception. Stardust works both as a standalone transceiver or fully integrated to an android / pc platform.

Leveraging the global coverage of GEO satellites, Stardust offers tactical users around the world a real-time connectivity solution that is both flexible and versatile. It fits to a various scenarios of field-user oriented comms, making it easy to carry, mount and operate.

Handheld version (SD-100) and Mobile version (SD-200) are available for various use cases. Electrical and mechanical design allow each version its unique advantages by offering seamless integration with different types of environments and physical interfaces. SD-301 model brings a modified version for HQ, taking Stardust network efficiency to its top by multi carrier, full-duplex support.

Stardust complies with L-Band tactical services by GEO satellite companies, making it invincible in size and performance. It excels in challenging environments and enable users a flexible solution for on-the-move data transfer, regardless of being directional to the satellite or being disturbed by a tied-up link margin.

Stardust Architecture

Stardust Device

BLE ⇕ **GPS** ⇕

10 01 Digital Module ⇕ ↔ **OS** Android / PC

Encryption AES-256 ⇕

Transceiver RF back & front end ↔ **Antenna** External

Battery

commcrete Stardust

SD - 100

Stardust Features

Stardust holds a few capabilities shared over satellite within the Commcrete Tactical Network:

Stardust License Grades

Feature	STA Situational Team Awareness	C4I
BFT - Blue Force Tracking	✓	✓
SOS - emergency messages	✓	✓
Text - Free text messages		✓
Data – File transfer		✓
Voice PTT		✓

* Stardust is a standalone device when basic features such as BFT and SOS are utilized.

* Advanced functionality of Text Massaging, File Transfer and Voice PTT require a supportive user interface by an OS (android or PC).
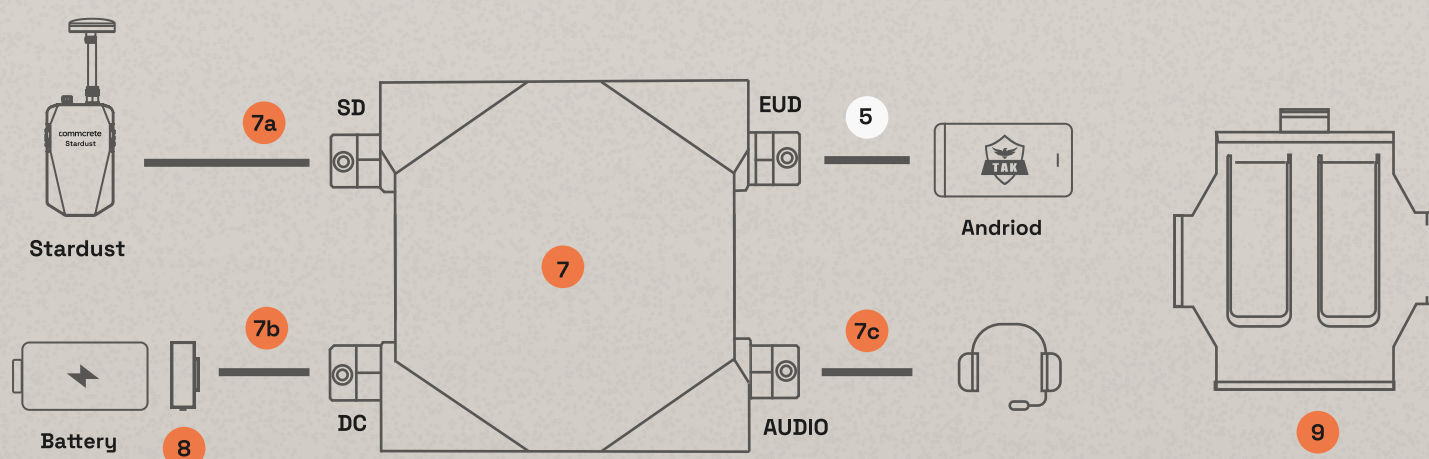
SD-100 Formation

SD-100 Handheld Version
Android controlled / PTT support

Andriod

Charging

4b

4a

5

3

7a

2

commcrete Stardust

SD - 100

1 **6**

1	Stardust Handheld Device	SD-100
2	Coaxial Gooseneck, 24 cm	HTS-102
3	Passive Antenna	HSD-111
4A	220V AC PD Charger, USB-C	AC-PD-USBC
4B	USB-C PD Charging cable assembly adapter	CE-PD-USBC
5	Data / Power Cable Assembly	145268
6	Mounting Bracket	HSD-103

J-Box

commcrete Stardust

Stardust

7a **SD**

EUD **5**

Andriod

7

7b

Battery

8 **DC**

7c

AUDIO

9
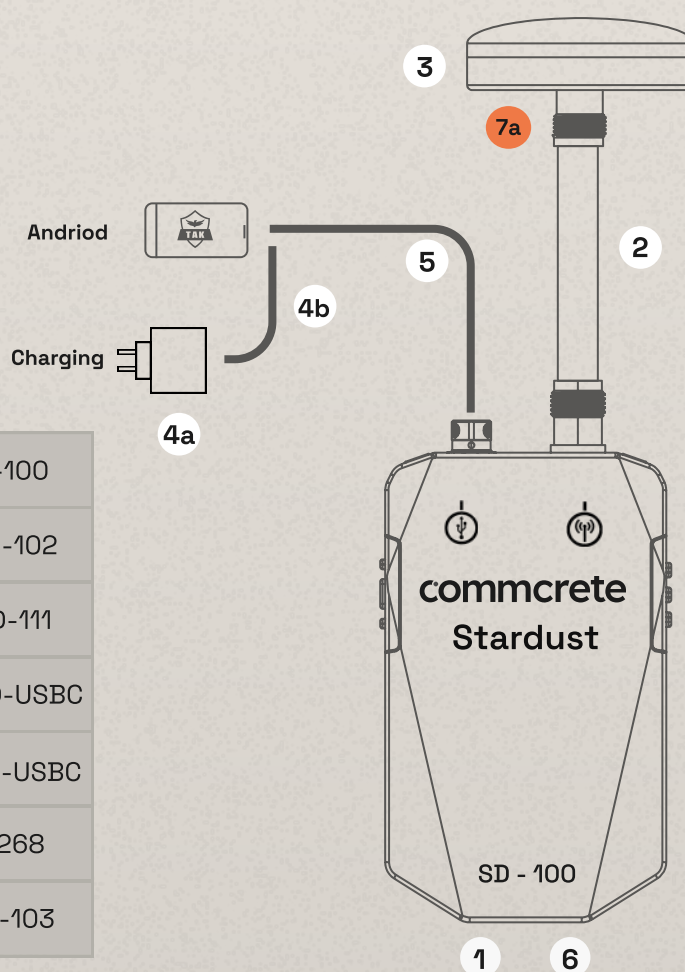
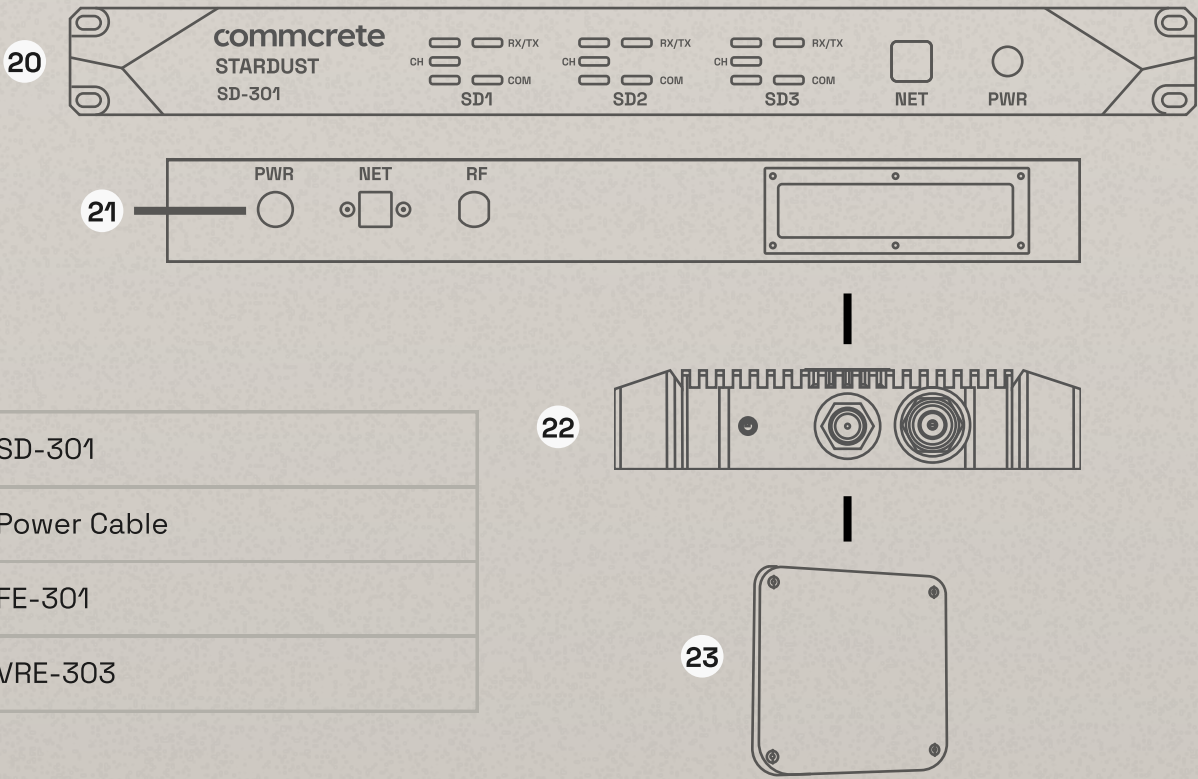| 7	J-Box (DC / USB / Audio Hub)	SD-JB	7c	Audio Cable Assembly	145710
7a	Power & Data Cable Assembly	145554	8	Battery adapter for PRC-148/152	HSD-120
7b	Power Cable Assembly	145559	9	Mounting Bracket	HSD-303

SD-200 Formation

SD-200 Mobile Version

Platform / FOB mounted

Vehicle
Battery

Andriod

11	Stardust Mobile Device
12	RF Cable, 5m
13	Active Antenna
14	Power Cable
15	Stardust Mobile Bracket
5	Data Cable Assembly

14

5

12

13

DC   RF

DATA

11

15

SD-301 Formation

20

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STARDUST
SD-301

| | | RX/TX | | | RX/TX | | | RX/TX | | |
CH | | COM | CH | | COM | CH | | COM | NET | PWR |
SD1   SD2   SD3

21

PWR   NET   RF

22

23
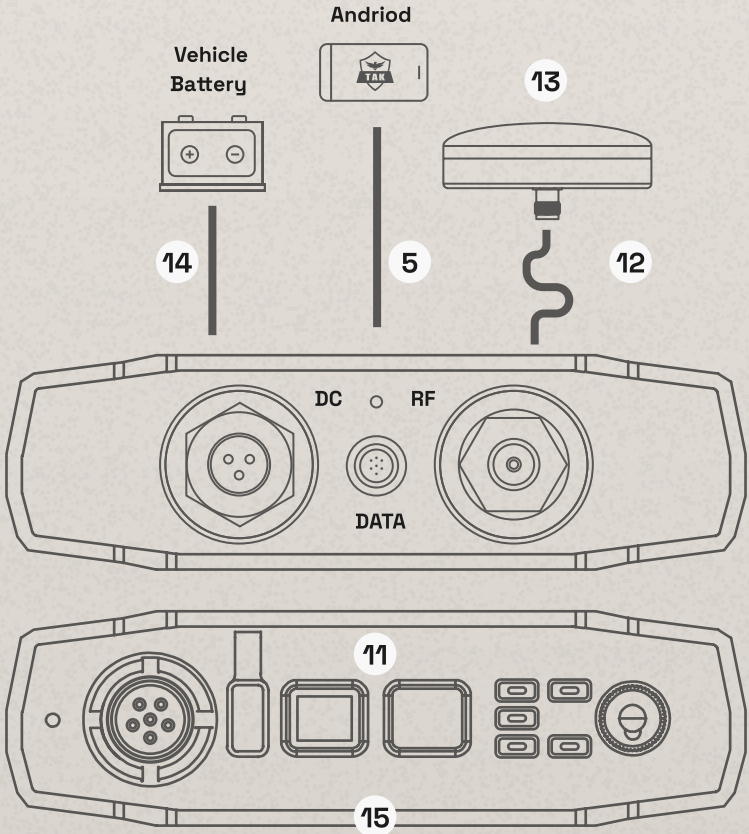
20	SD-301
21	Power Cable
22	FE-301
23	VRE-303

	Handheld Stardust / SD-100	Mobile Stardust / SD-200
Frequency Range	Rx: 1,525-1,559 MHz Tx: 1,626-1661.5 MHz GNSS: L1 BT: 2,400-2,483 MHz	Rx: 1,525-1,559 MHz Tx: 1,626-1661.5 MHz GNSS: L1 BT: 2,400-2,483 MHz
Data Rate	Low Rate: 100 bps Nom Rate: 1 kbps High Rate: 6 kbps	Low Rate: 100 bps Nom Rate: 1 kbps High Rate: 6 kbps
DC Power	Volts Battery: Rechargeable Li-Po Capacity: 550mAh @ 7.4V	9-48 Volts
EIRP	35dBmi (Max)	35dBmi (Max)
Interface	DC + USB: Fischer Push-Pull RF: TNC	DC + USB: Fischer Push-Pull DC Only: 38999 Amphenol RF: TNC
Environmental	-30°c - +60°c Operation IP67	-30°c - +60°c Operation IP67
Physical	58mm X 88mm X 15mm 130 grams	100mm X 160mm X 30mm 350 grams
Compliance:	CE, FCC	CE, FCC
Encryption	AES-256	AES-256

	Passive Antenna / HTS-111	Active Antenna / VTS-310
Frequency Range	Rx: 1,525-1,559 MHz Tx: 1,626-1661.5 MHz GNSS: L1	Rx: 1,525-1,559 MHz Tx: 1,626-1661.5 MHz GNSS: L1
Gain	L-Band: 0dBic (nominal) GPS: 0dBic	L-Band: 0dBic (nominal) GPS: 0dBic
DC Power	Passive (none)	Active (Over RF)
Interface	RF: TNC	RF: TNC
Environmental	-20°c - +60°c Operation IP67	-30°c - +60°c Operation IP67
Physical	Ø65mm, 100 grams	Ø100mm, 200 grams

	HQ Stardust / SD-301	Front End / AFE-301
Frequency Range	Rx: 1,525-1,559 MHz Tx: 1,626-1661.5 MHz GNSS: L1	Rx: 1,525-1,559 MHz Tx: 1,626-1661.5 MHz GNSS: L1
Data Rate	Low Rate: 100 bps Nom Rate: 1 kbps High Rate: 6 kbps	Low Rate: 100 bps Nom Rate: 1 kbps High Rate: 6 kbps
DC Power	Volts Battery: Rechargeable Li-Po Capacity: 550mAh @ 7.4V	DC Over RF
EIRP	N/A (AFE-301)	35dBmi (Max)
Interface	DC: Amphenol 38999 RF: N-type	DC: Over RF (TNC) RF Out: N-type
Environmental	-30°c - +60°c Operation	-30°c - +60°c Operation IP67
Physical	482mm X 250mm X 44mm 1650 grams	165mm X 115mm X 35mm 750 grams
Encryption:	AES-256	N/A

Channel Bandwidth

Satellite Channel: 25kHz

Stardust   Stardust   Stardust

F1   F2   F3

Tri-Carrier Mode

URS
UNITED REGISTRAR OF SYSTEMS
UKAS QUALITY MANAGEMENT 043-A
ISO 9001

MEMBER OF MULTILATERAL
IAF
RECOGNITION ARRANGEMENT
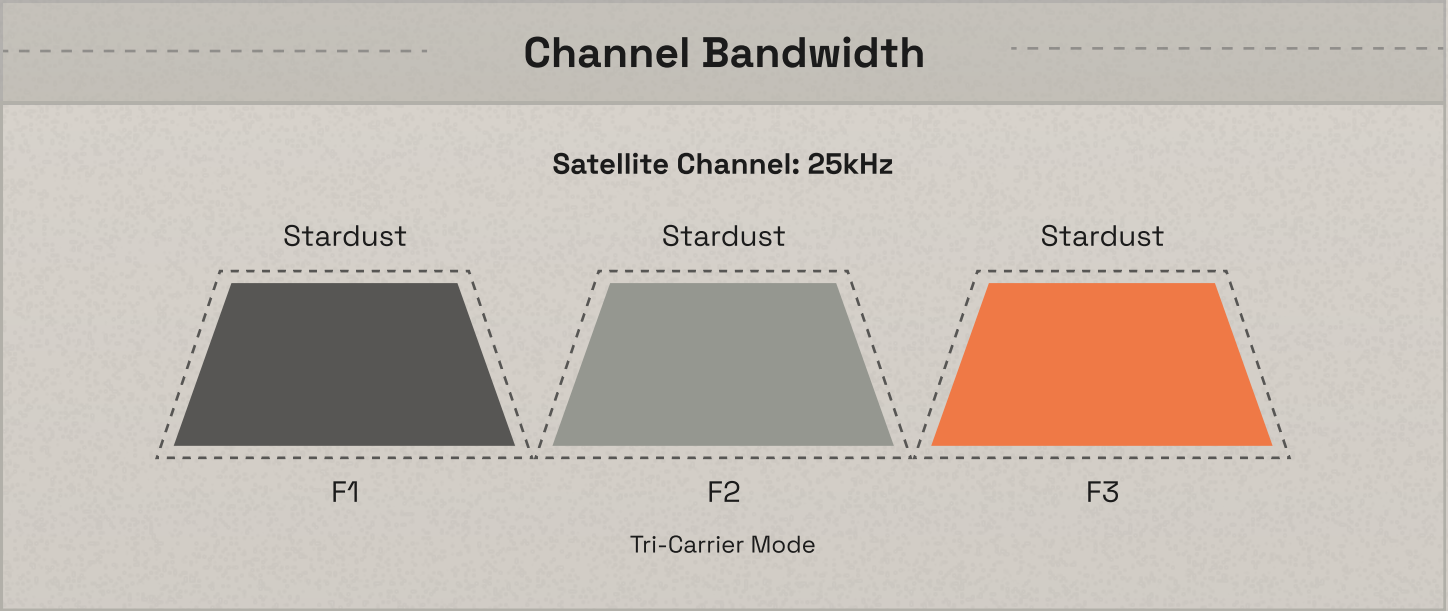
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