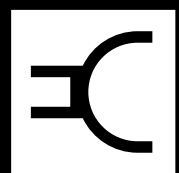




2014-15

COMMERCIAL **Product Catalogue**



CODAN
RADIO COMMUNICATIONS

This is Issue 8 of the HF Codan Radio Communications Commercial Product Catalogue, January 2015.

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The products in this catalogue are available with the NGT™ series Transceivers and / or the Envoy™ series Transceivers as indicated by the following logos. A compatibility statement specifies the transceiver models that are applicable.



Available with the NGT™ series Transceivers



Available with Envoy™ series Transceivers

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 **envoy**
TRANSCIVER SERIES


CODAN
RADIO COMMUNICATIONS

ENVOY™ X1 TRANSCEIVER		
PRODUCT	PART NO.	DESCRIPTION
ENVOY-X1-TCVR		<p>Envoy™ X1 Transceiver</p> <p>The Envoy™ X1 Transceiver is a state-of-the-art software defined HF transceiver that delivers high performance but cost-effective voice communications for both base and mobile applications.</p> <p>The X1 Transceiver can be used with the 2221 or 2220 Handset or 2230 Desk Console. Both handset types and the desk console incorporate the new large format colour display and intuitive icon based menu system providing ease of use and programming.</p> <p>NOTE: The GPIO connector on the Envoy™ X1 Transceiver does <i>not</i> support any peripherals apart from a Morse Code Key.</p> <p>The standard transceiver consists of the parts listed below. The following pages detail the parts required for Envoy™ X1 Mobile and Base configurations.</p> <p>COMPRISING:</p> <ul style="list-style-type: none"> • Envoy™ X1 2210 RF Unit • Envoy™ 2220 Handset • Envoy™ 2220 Handset Cradle • External Speaker with 4 m Lead • Envoy™/NGT™ Handset Control Cable, 6 m • Self Adhesive Rubber Feet (x4) • Envoy™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide) • Envoy™ Quick Reference Card <p>STANDARD FEATURES:</p> <ul style="list-style-type: none"> • 100 channels, 1.6 to 30 MHz, 10 scan groups • 200 Contact List entries • Simultaneous scanning of multiple scan groups • 125 W PEP, 12 V DC, USB/LSB/AM • Ethernet/USB connectivity • English language graphical user interface • Codan Selcall (including Diagnostic, Phone and Emergency Call types) • GPS receiver port • In-built <i>Easitalk™</i> speech noise reduction • MIL-STD-810G for Drop, Dust, Shock, Vibration <p>AVAILABLE OPTIONS & ACCESSORIES:</p> <p>See pages 4 and 45 for <i>Envoy™ X1 Options and Transceiver Accessories</i>.</p>
	08-07218-001	
	08-07000-001	
	15-00149	
	15-00649	
	08-06022-001	
	30-11208-000	
	15-04177-##	
	06-02809-EN	



denotes language version

ENVOY™ X1 MOBILE		
PRODUCT	PART NO.	DESCRIPTION
ENVOY-X1-MOB		Envoy™ X1 Mobile Configuration
		The Envoy™ X1 Mobile Configuration consists of an Envoy™ Transceiver, a 3040 Automatic Tuning Whip Antenna and cables, and vehicle installation hardware kit.
		COMPRISING:
		Envoy™ X1 Transceiver
		<ul style="list-style-type: none"> • Envoy™ X1 2210 RF Unit • Envoy™ 2220 Handset • Envoy™ 2220 Handset Cradle • External Speaker with 4 m Lead • Envoy™/NGT™ Handset Control Cable, 6 m • Envoy™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide) • Envoy™ Quick Reference Card
		3040 Automatic Tuning Whip with 6 m Cables
		The 3040 consists of the following parts. See page 89 for additional 3040 accessories.
		3040 Main Assembly
		Control NGT™/Envoy™ to 9350/304X Cable, 6 m
		Coax Assembly Cable, UHF Type Connectors, RG58, 6 m
		3040 Spring
		Riser, Fibreglass
		3040 Fibreglass Whip, 1.6 m
		3040 Stainless Steel Whip, 1.65 m
		3040 Automatic Whip Antenna Installation Handbook, c/w antenna connector sealing kit
		RF Unit Cradle & Battery Cable
		Includes mounting cradle, fuse holder and fuse, earth wire and 6 m battery cable.
		Complete Vehicle Installation Hardware Kit
		Includes assorted screws, cable ties and grommets.
		AVAILABLE OPTIONS & ACCESSORIES:
		See pages 4 and 51 for <i>Envoy™ X1 Options and Mobile Accessories</i> .

denotes language version

ENVOY™ X1 BASE		
PRODUCT	PART NO.	DESCRIPTION
ENVOY-X1-BASE		Envoy™ X1 Base Station Configuration The Envoy™ X1 Base Station Configuration consists of an Envoy™ X1 Transceiver, a 2230 Desk Console, a TFD411 Antenna, 3020 Heavy Duty Transceiver Supply, and cables.
	08-07218-001 08-07204-001 15-60025 08-07205-006 30-11208-000 15-04177-##	COMPRISING: Envoy™ Transceiver <ul style="list-style-type: none"> • Envoy™ X1 2210 RF Unit • Envoy™ 2230 Desk Console • 2230 Desk Console Boom Microphone • Envoy™ Console to RF Unit Cable, 6 m • Self Adhesive Rubber Feet (x4) • Envoy™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide) • Envoy™ Quick Reference Card
	06-02809-EN 15-00411-004	TFD411 Antenna 125 W, 2–30 MHz, 34 m The antenna can be mounted horizontally between two support systems, or as an inverted “V” using a single central support mast.
	08-01503-030	Coax Assembly Cable, UHF Type Connectors, RG58, 30 m 30 m of high quality RG58 coaxial cable terminated with waterproof UHF style connectors.
	78-20022	3020 Transceiver Supply Power supply to convert AC Mains into 13.8 V DC to power the X1 Transceiver.
	67-9030#	Power IEC Cable, 2 m Used to connect 3020 Transceiver Supply to AC Mains source. For cable options, see page 83, <i>3020 Transceiver Supply</i> .
	05-06374	Earth Braid, 1.5 m Used to connect X1 RF Unit to ground point.

AVAILABLE OPTIONS & ACCESSORIES:

See pages 4 and 53 for *Envoy™ X1 Options and Base Accessories*.

denotes the cable variant depending upon country of use
denotes language version

ENVOY™ X1 OPTIONS		
PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10560	Opt FED-STD-1045 ALE/CALM™ Fully compatible with FED-STD-1045 ALE capabilities and enhanced with Codan Automated Link Management (CALM™). Standard call types include: Selective Call, All Call, Phone Call, Message Call, Diagnostic Call, Emergency Call.
<input checked="" type="checkbox"/>	15-10558	Opt, Default Open Selcall
<input checked="" type="checkbox"/>	15-10561	Opt GPS Calling Enables sending and receiving of GPS position information using Selcall or ALE (if enabled). NOTE: This feature is compatible with GPS receivers providing NMEA 0183 V2.0 (or later) output format. A GPS receiver is not supplied as part of this option. For a description of the GPS receiver available from Codan, see page 51, <i>Mobile Accessories</i> .
<input checked="" type="checkbox"/>	15-10518	Opt Amateur Mode Enables transmit within designated HF Amateur frequency bands when using the Free Tune Receiver mode.
<input checked="" type="checkbox"/>	15-10599	Opt Dari Language Enables Dari Language user interface as a user selectable option for any control point (2221/2220 Handset or 2230 Desktop Console) connected to the RF Unit.
<input checked="" type="checkbox"/>	15-10600	Opt Russian Language Enables Russian Language user interface as a user selectable option for any control point (2221/2220 Handset or 2230 Desktop Console) connected to the RF Unit.
<input checked="" type="checkbox"/>	15-10580	Opt Spanish Language Enables Spanish Language user interface as a user selectable option for any control point (2221/2220 Handset or 2230 Desktop Console) connected to the RF Unit.
<input checked="" type="checkbox"/>	15-10601	Opt French Language Enables French Language user interface as a user selectable option for any control point (2221/2220 Handset or 2230 Desktop Console) connected to the RF Unit.
<input checked="" type="checkbox"/>	15-10513	Opt 100 W Sets maximum transmit power to 100 watts.




Continued on the next page

ENVOY™ X1 OPTIONS cont.

PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10481	<p>Opt TxD, Tx Program Disabled</p> <p>Disables keypad programming of new transmit frequencies. For use in countries where front panel programming is prohibited by regulatory authorities, e.g. USA and Australia.</p>
<input checked="" type="checkbox"/>	15-10491	<p>Opt TxP, Tx Program Prohibited</p> <p>Prohibits keypad programming of new transmit and receive frequencies.</p>
<input checked="" type="checkbox"/>	15-10582	<p>Opt 500 Hz Filter</p> <p>500 Hz filter software filter for narrow band operation e.g. Morse Code.</p>
<input checked="" type="checkbox"/>	15-10563	<p>Opt Voice Scrambler (CIVS)</p> <p>Codan Integrated Voice Scrambler used to provide basic level voice security capability.</p>
<input checked="" type="checkbox"/>	15-10591-000	<p>Opt Digital Voice (Factory Fit)</p> <p>Enables digital voice capability. Digital voice provides highly intelligible audio, free from background noise, interference, and fading effects often experienced with analogue voice.</p> <p>Supplied standard with MELPe and TWELP vocoder types and 2400bps data rate as standard.</p> <p>AES-256 Encryption (part number 15-10595) and 1200bps and 600bps vocoder rate options (part numbers 15-10596 & 15-10597) may be added for additional capability.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • AES-256 Encryption option (15-10595) can be added. • 1200 bps and Low rate Vocoder (15-10596, 15-10597) can be added • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option. • This option is also available as a retro fit kit (part number 15-10591).
<input checked="" type="checkbox"/>	15-10596	<p>Opt 1200 bps Vocoder</p> <p>Strongly recommended optional 1200 bps vocoder data rate for Digital Voice option (part number 15-10591-000), enabling digital voice to operate in highly degraded channel conditions.</p>
<input checked="" type="checkbox"/>	15-10597	<p>Opt Low rate Vocoder</p> <p>Optional 600 bps vocoder data rate for Digital Voice option (part number 15-10591-000), enabling digital voice to operate in highly degraded channel conditions.</p>

Continued on the next page

Envoy™ X1 Configurations

ENVOY™ X1 OPTIONS cont.		
PRODUCT	PART NO.	DESCRIPTION
	15-10595	<p>Opt AES-256 Encryption</p> <p>Adds AES-256 Encryption, with support for up to 256 preloaded keys. Suitable for use in conjunction with the MIL-STANAG 2G Data and Digital Voice options (part numbers 15-10591, 15-10589, 15-10590).</p> <p>NOTE:</p> <ul style="list-style-type: none"> • KMS/KFS Key Fill Software recommended (see page 48, <i>Key Management Software</i>).
	15-10564-000	<p>Opt CES-128 Encryptor Module (Factory Fit)</p> <p>High grade Voice Encryptor Module that provides high grade voice security with exceptional recovered audio quality.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10564). • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.
	15-10582	<p>Opt 500 Hz Filter</p> <p>500 Hz filter software filter for narrow band operation e.g. Morse Code.</p>

ENVOY™ X2 TRANSCEIVER

PRODUCT	PART NO.	DESCRIPTION
ENVOY-X2-TCVR		<p>Envoy™ X2 Transceiver</p> <p>The Envoy™ X2 Transceiver is a state-of-the-art software defined HF transceiver delivering high performance voice and data communications and systems capabilities for both base and mobile applications.</p> <p>The X2 Transceiver can be used with the 2221 or 2220 Handset or 2230 Desk Console. Both handset types and the desk console incorporate the new large format colour display and intuitive icon based menu system providing ease of use and programming.</p> <p>The standard transceiver consists of the parts listed below. The following pages detail the parts required for Envoy™ X2 Mobile and Base configurations.</p> <p>COMPRISING:</p> <ul style="list-style-type: none"> • Envoy™ X2 2210 RF Unit • Envoy™ 2220 Handset • Envoy™ 2220 Handset Cradle • External Speaker with 4 m Lead • Envoy™/NGT™ Handset Control Cable, 6 m • Self Adhesive Rubber Feet (x4) • Envoy™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide) • Envoy™ Quick Reference Card <p>STANDARD FEATURES:</p> <ul style="list-style-type: none"> • 1000 channels, 1.6 to 30 MHz, 20 scan groups • 500 Contact List entries • Simultaneous scanning of multiple scan groups • 125 W PEP, 12 V DC, USB/LSB/AM • Ethernet/USB connectivity • 15-way general purpose interface port (GPIO) for systems and accessory connectivity • English language graphical user interface • Codan Selcall (including Diagnostic, Phone and Emergency Call types) • GPS receiver port • In-built <i>Easitalk™</i> speech noise reduction • MIL-STD-810G for Drop, Dust, Shock, Vibration <p>AVAILABLE OPTIONS & ACCESSORIES:</p> <p>See pages 10 and 45 for <i>Envoy X2 Options and Transceiver Accessories</i>.</p>
	08-07218-002	
	08-07000-001	
	15-00149	
	15-00649	
	08-06022-001	
	30-11208-000	
	15-04177-##	
	06-02809-EN	



denotes language version

ENVOY™ X2 MOBILE		
PRODUCT	PART NO.	DESCRIPTION
ENVOY-X2-MOB		Envoy™ X2 Mobile Configuration
		The Envoy™ X2 Mobile Configuration consists of an Envoy™ Transceiver, a 3040 Automatic Tuning Whip Antenna and cables, and vehicle installation hardware kit.
		COMPRISING:
		Envoy™ X2 Transceiver
		<ul style="list-style-type: none"> • Envoy™ X2 2210 RF Unit • Envoy™ 2220 Handset • Envoy™ 2220 Handset Cradle • External Speaker with 4 m Lead • Envoy™/NGT™ Handset Control Cable, 6 m • Envoy™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide) • Envoy™ Quick Reference Card
		3040 Automatic Tuning Whip with 6 m Cables
		The 3040 consists of the following parts. See page 89 for additional 3040 accessories.
		<ul style="list-style-type: none"> 3040 Main Assembly Control NGT™/Envoy™ to 9350/304X Cable, 6 m Coax Assembly Cable, UHF Type Connectors, RG58, 6 m 3040 Spring Riser, Fibreglass 3040 Fibreglass Whip, 1.6 m 3040 Stainless Steel Whip 1.65 m 3040 Automatic Whip Antenna Installation Handbook, c/w antenna connector sealing kit
		NGT™/Envoy™ RF Cradle & Battery Cable
		Includes mounting cradle, fuse holder and fuse, earth wire and 6 m battery cable.
		Complete Vehicle Installation Hardware Kit
		Includes assorted screws, cable ties and grommets.
		AVAILABLE OPTIONS & ACCESSORIES:
		See pages 10 and 51 for <i>Envoy X2 Options</i> and <i>Mobile Accessories</i> .



08-07218-002
08-07000-001
15-00149
15-00649
08-06022-001
15-04177-##



08-07007-001
08-05627-006
08-01503-006
08-07148-001
78-18058
78-23085
78-23086
15-60012



15-00130



15-00112

ENVOY™ X2 BASE		
PRODUCT	PART NO.	DESCRIPTION
ENVOY-X2-BASE		Envoy™ X2 Base Station Configuration
		The Envoy™ Base Station Configuration consists of an Envoy™ Transceiver, a TFD411 Antenna, 3020 Heavy Duty Transceiver Supply, and cables.
		COMPRISING:
		Envoy™ X2 Transceiver
	08-07218-002 08-07204-001 15-60025 08-07205-006 30-11208-000 15-04177-##	<ul style="list-style-type: none"> • Envoy™ X2 2210 RF Unit • Envoy™ 2230 Desk Console • 2230 Desk Console Boom Microphone • Envoy™ Console to RF Unit Cable, 6 m • Self Adhesive Rubber Feet (x4) • Envoy™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide) • Envoy™ Quick Reference Card
	06-02809-EN 15-00411-004	TFD411 Antenna 125 W, 2–30 MHz, 34 m The antenna can be mounted horizontally between two support systems, or as an inverted “V” using a single central support mast.
	08-01503-030	Coax Assembly Cable, UHF Type Connectors, RG58, 30 m 30 m of high quality RG58 coaxial cable terminated with waterproof UHF style connectors.
	78-20022	3020 Transceiver Supply Power supply to convert AC Mains into 13.8 V DC to power the X2 Transceiver.
	67-9030#	Power IEC Cable, 2 m Used to connect 3020 Transceiver Supply to AC Mains source. For cable options, see page 83, <i>3020 Transceiver Supply</i> .
	05-06374	Earth Braid, 1.5 m Used to connect X2 RF Unit to ground point.

AVAILABLE OPTIONS & ACCESSORIES:

See pages 10 and 53 for *Envoy X2 Options and Base Accessories*.

denotes the cable variant depending upon country of use
denotes language version

ENVOY™ X2 OPTIONS		
PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10560	<p>Opt FED-STD-1045 ALE/CALM™</p> <p>Fully compatible with FED-STD-1045 ALE capabilities and enhanced with Codan Automated Link Management (CALM™). Standard call types include: Selective Call, All Call, Phone Call, Message Call, Diagnostic Call, Emergency Call.</p>
<input checked="" type="checkbox"/>	15-10568	<p>Opt MIL-STD-188-141B ALE Full</p> <p>This option provides full MIL-STD-188-141B ALE capability, including all capabilities provided by the FED-STD-1045 (part number 15-10560) option above.</p> <p>Additional call types include, NET Call, ANY Call, Group Call, Wildcard Call, in-link AMD Message Calls, as well as an advanced ALE beacon and Last Heard station log.</p>
<input checked="" type="checkbox"/>	15-10569	<p>Opt MIL-STD-188-141B Upgrade</p> <p>This option is used to order a factory password to field upgrade an Envoy Transceiver that already has FED-STD-1045 ALE/CALM™ enabled but requires MIL-STD-188-141B capability.</p> <p>NOTE:</p> <p>This part should <i>only</i> be used for ordering field upgrade passwords.</p>
<input checked="" type="checkbox"/>	15-10558	<p>Opt, Default Open Selcall</p>
<input checked="" type="checkbox"/>	15-10561	<p>Opt GPS Calling</p> <p>Enables sending and receiving of GPS position information using Selcall or ALE (if enabled).</p> <p>NOTE:</p> <p>This feature is compatible with GPS receivers providing NMEA 0183 V2.0 (or later) output format. A GPS receiver is not supplied as part of this option. For a description of the GPS receiver available from Codan, see page 51, <i>Mobile Accessories</i>.</p>
<input checked="" type="checkbox"/>	15-10559	<p>Opt 2400 bps Internal Data Modem</p> <p>Enables the embedded software modem providing robust error free point to point data communications. Supports simple AT command interface or full feature HF Email/Chat applications, see page 59, <i>Data & Email</i> for more details. Recommend to include Option Fan (part number 15-10469-000)</p>
<input checked="" type="checkbox"/>	15-10518	<p>Opt Amateur Mode</p> <p>Enables transmit within designated HF Amateur frequency bands when using the Free Tune Receiver mode.</p>
<input checked="" type="checkbox"/>	15-10599	<p>Opt Dari Language</p> <p>Enables Dari Language user interface as a user selectable option for any control point (2221/2220 Handset or 2230 Desktop Console) connected to the RF Unit.</p>

Continued on the next page

ENVOY™ X2 OPTIONS		
PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10600	Opt Russian Language Enables Russian Language user interface as a user selectable option for any control point (2221/2220 Handset or 2230 Desktop Console) connected to the RF Unit.
<input checked="" type="checkbox"/>	15-10580	Opt Spanish Language Enables Spanish Language user interface as a user selectable option for any control point (2221/2220 Handset or 2230 Desktop Console) connected to the RF Unit.
<input checked="" type="checkbox"/>	15-10601	Opt French Language Enables French Language user interface as a user selectable option for any control point (2221/2220 Handset or 2230 Desktop Console) connected to the RF Unit.
<input checked="" type="checkbox"/>	15-10513	Opt 100 W Sets maximum transmit power to 100 watts.
<input checked="" type="checkbox"/>	15-10481	Opt TxD, Tx Program Disabled Disables keypad programming of new transmit frequencies. For use in countries where front panel programming is prohibited by regulatory authorities, e.g. USA and Australia.
<input checked="" type="checkbox"/>	15-10491	Opt TxP, Tx Program Prohibited Prohibits keypad programming of new transmit and receive frequencies.
<input checked="" type="checkbox"/>	15-10582	Opt 500 Hz Filter 500 Hz filter software filter for narrow band operation e.g. Morse Code.
<input checked="" type="checkbox"/>	15-10562	Opt 2.7 kHz Filter 2.7 kHz wideband software filter. Recommended for use with 2G data and Digital Voice options (15-10589-000, 15-10590-000, 15-105491-000) and RM50e external data modem.
<input checked="" type="checkbox"/>	15-10583	Opt 3 kHz Filter 3 kHz wideband software filter.
<input checked="" type="checkbox"/>	15-10563	Opt Voice Scrambler (CIVS) Codan Integrated Voice Scrambler used to provide basic level voice security capability.

Continued on the next page

ENVOY™ X2 OPTIONS cont.		
PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10589-000	<p>Opt MIL-STANAG 2G Data (Factory Fit)</p> <p>Enables integrated data modem capability according to MIL-STD-110-188A/B and STANAG 4539. This provides a range of military spec data waveforms from 75 to 9600 bps uncompressed, capable of operating across varying channel conditions. The modem utilises adaptive equalisation and turbo-decoding for maximum performance. Provides efficient email over HF when used in conjunction with RC50-C email gateway (part number 15-04161-CD), see page 58, “RC50-C HF Email Software”.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option. • 2.7 kHz filter (15-10562) is recommended for optimum data performance. • AES-256 Encryption option (15-10595) can be added. • Retro Kit: 15-10589.
<input checked="" type="checkbox"/>	15-10590-000	<p>Opt MIL-STANAG 2G Data and Digital Voice (Factory Fit)</p> <p>Integrates the MIL/STANAG 2G Data and Digital Voice options. Requires RC50-C email gateway (part number 15-04161-CD) for data operation, see page 58, “RC50-C HF Email Software”.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • AES-256 Encryption option (15-10595) can be added. • 1200 bps and Low rate Vocoder (15-10596, 15-10597) can be added. • 2.7 kHz filter (15-10562) is recommended for optimum data and digital voice performance. • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option. • Retro Kit: 15-10590.
<input checked="" type="checkbox"/>	15-10598	<p>Opt ISB</p> <p>Enables Independent Sideband operation when used in conjunction with 2G data options (15-10589-000 and 15-10590-000) and RC50-C HF Email Software. Provides data rates of up 19200 bps.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • On air compatible with ISB data option in the NGT SRx transceiver, see page 35

Continued on the next page

ENVOY™ X2 OPTIONS cont.

PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10591-000	<p>Opt Digital Voice (Factory Fit)</p> <p>Enables digital voice capability. Digital voice provides highly intelligible audio, free from background noise, interference, and fading effects often experienced with analogue voice.</p> <p>Supplied standard with MELPe and TWELP vocoder types and 2400 bps data rate as standard.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • AES-256 Encryption option (15-10595) can be added. • 1200 bps and Low rate Vocoder (15-10596, 15-10597) can be added. • 2.7 kHz filter (15-10562) is recommended for optimum digital voice performance. • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option. • This option is also available as a retro fit kit (part number 15-10591).
<input checked="" type="checkbox"/>	15-10596	<p>Opt 1200 bps Vocoder</p> <p>Strongly recommended optional 1200 bps vocoder data rate for Digital Voice option (part number 15-10590-000 or 15-10591-000), enabling digital voice to operate in highly degraded channel conditions.</p>
<input checked="" type="checkbox"/>	15-10597	<p>Opt Low rate Vocoder</p> <p>Optional 600 bps vocoder data rate for Digital Voice option (part number 15-10590-000 or 15-10591-000), enabling digital voice to operate in highly degraded channel conditions.</p>
<input checked="" type="checkbox"/>	15-10595	<p>Opt AES-256 Encryption</p> <p>Adds AES-256 Encryption, with support for up to 256 preloaded keys. Suitable for use in conjunction with the MIL-STANAG 2G Data and Digital Voice options (part numbers 15-10591, 15-10589, 15-10590).</p> <p>NOTE:</p> <ul style="list-style-type: none"> • KMS/KFS Key Fill Software recommended (see page 48, <i>Key Management Software</i>).

Continued on the next page



15-10564-000

Opt CES-128 Encryptor Module (Factory Fit)

High grade Voice Encryptor Module that provides high grade voice security with exceptional recovered audio quality.

NOTE:

- This option is also available as a retro fit kit (part number 15-10564).
- This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.



15-10469-000

Opt Fan (Factory Fit)

Fan unit for continuous data transmission for Envoy™/NGT™ series Transceivers.

NOTE:

This option is also available as a retro fit kit (part number 15-10469).

Digital Voice and 2G Data Upgrade Selection Matrix

2G Data and DV Options	Upgrade Capabilities		
	1200 bps Vocoder data rate (15-10596)	Low rate Vocoder (15-10597)	AES-256 Encryption (15-10595)
15-10591-000 (DV)	✓	✓	✓
15-10590-000 (2G Data & DV)	✓	✓	✓
15-10589-000 (2G Data)	✗	✗	✓

ENVOY™ X1 TRANSCEIVER

PRODUCT	PART NO.	DESCRIPTION
ENVOY-X1-TCVR-AUS		<p>Envoy™ X1 Transceiver</p> <p>The Envoy™ X1 Transceiver is a state-of- the-art software defined HF transceiver that delivers high performance but cost-effective voice communications for both base and mobile applications.</p> <p>The X1 Transceiver can be used with the 2221 or 2220 Handset or 2230 Desk Console. Both handset types and the desk console incorporate the new large format colour display and intuitive icon based menu system providing ease of use and programming.</p> <p>NOTE: The GPIO connector on the Envoy™ X1 Transceiver does <i>not</i> support any peripherals apart from a Morse Code Key.</p> <p>The standard transceiver consists of the parts listed below. The following pages detail the parts required for Envoy™ X1 Mobile and Base configurations.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • In Envoy™ X1 Mobile configurations, rubber feet (part number 30-11208-000) are not included. • In the Envoy™ X1 Base (with Console) configuration (ENVOY-X1-CONS-AUS), the handset cradle, external speaker and control cable (part numbers 15-00149, 15-00649 and 08-06022-001) are not included. <p>COMPRISING:</p> <ul style="list-style-type: none"> • Envoy™ X1 2210 RF Unit • Envoy™ 2221 Limited Keypad Handset • Envoy™ 2220 Handset Cradle • External Speaker with 4 m Lead • Envoy™/NGT™ Handset Control Cable, 6 m • Self Adhesive Rubber Feet (x4) • Option for Australia, X1 • Envoy™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide) • Envoy™ Quick Reference Card <p>STANDARD FEATURES:</p> <ul style="list-style-type: none"> • 400 channels, 1.6 to 30 MHz, 20 scan groups • 250 Contact List entries • Simultaneous scanning of multiple scan groups • 100 W PEP, 12 V DC, USB/LSB/AM • Ethernet/USB connectivity • English language graphical user interface • Codan Selcall (including Diagnostic, Phone and Emergency Call types) • GPS receiver port • In-built <i>Easitalk™</i> speech noise reduction • MIL-STD-810G for Drop, Dust, Shock, Vibration <p>AVAILABLE OPTIONS & ACCESSORIES:</p> <p>See pages 4 and 45 for <i>Envoy™ X1 Options</i> and <i>Transceiver Accessories</i>.</p>
	08-07218-001	
	08-07000-001	
	15-00149	
	15-00649	
	08-06022-001	
	30-11208-000	
	15-10572	
	15-04177-EN	
	06-02809-EN	



PART	PART NO.	ENVOY™ X1 PACKAGES					
		Explorer Mobile ENVOY-X1-MOB-EXPLORER-AUS	Mobile (3040) ENVOY-X1-MOB-3040-AUS	Venturer Mobile ENVOY-X1-MOB-VENTURER-AUS	Mobile (9350) ENVOY-X1-MOB-9350-AUS	Base ENVOY-X1-BASE-AUS	Base (with Console) ENVOY-X1-CONS-AUS
CONSOLE							
2230 Desk Console & Boom Microphone	08-07204-001 15-60025						✓
Cable, Envoy™ Console to RF Unit, 6 m	08-07205-006						✓
ANTENNAS							
3040 Main Assembly	08-07007-001	✓	✓				
Riser, Fibreglass, 0.8 m	78-18058	✓	✓				
3040 Fibreglass Whip, 1.6 m	78-23085		✓				
3040 Stainless Steel Whip, 1.65 m	78-23086	✓	✓				
3040 Spring	08-07148-001	✓	✓				
9350 Main Assembly	08-05063-001			✓	✓		
9350 Fibreglass Whip, 1.6 m	78-23007-003				✓		
9350 Tapered Stainless Steel Whip, 1.65 m	78-23056			✓			
9350 Tapered Stainless Steel Whip, 1.2 m	78-23025				✓		
9350 Spring	08-05140-001				✓		
Ant, TFD411, 125 W, 2–30 MHz, 34 m	15-00411-004					✓	✓
INSTALLATION HARDWARE							
NGT™/Envoy™ RF Cradle & Battery Cable	15-00130	✓	✓	✓	✓		
Complete Vehicle Installation Hardware Kit	15-00112	✓	✓	✓	✓		
3040 Installation Handbook (includes sealing kit)	15-60012	✓	✓				
Automatic Tuning Whip Antenna 9350 Installation Handbook	15-04142-EN			✓	✓		
CABLES							
Control NGT™/Envoy™ to 9350/304X Cable, 6 m	08-05627-006	✓	✓	✓	✓		
Coax Assembly Cable, UHF Connectors RG58, 6 m	08-01503-006	✓	✓	✓	✓		
Coax Assembly Cable, UHF Type Connectors, RG58, 30 m	08-01503-030					✓	✓
Earth Braid, 1.5 m	05-06374					✓	✓
TRANSCEIVER SUPPLY							
3020 Transceiver Supply	78-20022					✓	✓
Power IEC Cable	67-90305					✓	✓

ENVOY™ X2 TRANSCEIVER

PRODUCT	PART NO.	DESCRIPTION
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ENVOY-X2-TCVR-AUS



Envoy™ X2 Transceiver

The Envoy™ X2 Transceiver is a state-of-the-art software defined HF transceiver delivering high performance voice and data communications and systems capabilities for both base and mobile applications.

The X2 Transceiver can be used with the 2221 or 2220 Handset or 2230 Desk Console. Both handset types and the desk console incorporate the new large format colour display and intuitive icon based menu system providing ease of use and programming.

The standard transceiver consists of the parts listed below. The following pages detail the parts required for Envoy™ X2 Mobile and Base configurations.

NOTE:

- In Envoy™ X2 Mobile configurations, rubber feet (part number 30-11208-000) are not included.
- In the Envoy™ X2 Base (with Console) configuration (ENVOY-X2-CONS-AUS), the handset cradle, external speaker and control cable (part numbers 15-00149, 15-00649 and 08-06022-001) are not included.

COMPRISING:

- Envoy™ X2 2210 RF Unit
- Envoy™ 2220 Handset
- Envoy™ 2220 Handset Cradle
- External Speaker with 4 m Lead
- Envoy™/NGT™ Handset Control Cable, 6 m
- Self Adhesive Rubber Feet (x4)
- Option for Australia, X2
- Envoy™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, *Language Support* for translations of this guide)
- Envoy™ Quick Reference Card

STANDARD FEATURES:

- 1000 channels, 1.6 to 30 MHz, 20 scan groups
- 500 Contact List entries
- Simultaneous scanning of multiple scan groups
- 100 W PEP, 12 V DC, USB/LSB/AM
- Ethernet/USB connectivity
- 15-way general purpose interface port (GPIO) for systems and accessory connectivity
- English language graphical user interface
- Codan Selcall (including Diagnostic, Phone and Emergency Call types)
- GPS receiver port
- In-built *Easitalk™* speech noise reduction
- MIL-STD-810G for Drop, Dust, Shock, Vibration

AVAILABLE OPTIONS & ACCESSORIES:

See pages 10 and 45 for *Envoy X2 Options and Transceiver Accessories*.

- 08-07218-002
- 08-07000-001
- 15-00149
- 15-00649
- 08-06022-001
- 30-11208-000
- 15-10573
- 15-04177-EN

- 06-02809-EN

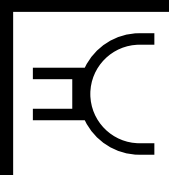
denotes language version

PART	PART NO.	ENVOY™ X2 PACKAGES			
		Mobile (3040) ENVOY-X2-MOB-3040-AUS	Mobile (9350) ENVOY-X2-MOB-9350-AUS	Base ENVOY-X2-BASE-AUS	Base (with Console) ENVOY-X2-CONS-AUS
CONSOLE					
2230 Desk Console & Boom Microphone	08-07204-001 15-60025				✓
Cable, Envoy™ Console to RF Unit, 6 m	08-07205-006				✓
ANTENNAS					
3040 Main Assembly	08-07007-001	✓			
Riser, Fibreglass, 0.8 m	78-18058	✓			
3040 Fibreglass Whip, 1.6 m	78-23085	✓			
3040 Stainless Steel Whip, 1.65 m	78-23086	✓			
3040 Spring	08-07148-001	✓			
9350 Main Assembly	08-05063-001		✓		
9350 Fibreglass Whip, 1.6 m	78-23007-003		✓		
9350 Tapered Stainless Steel Whip, 1.2 m	78-23025		✓		
9350 Spring	08-05140-001		✓		
Ant, TFD411, 125 W, 2–30 MHz, 34 m	15-00411-004			✓	✓
INSTALLATION HARDWARE					
NGT™/Envoy™ RF Cradle & Battery Cable	15-00130	✓	✓		
Complete Vehicle Installation Hardware Kit	15-00112	✓	✓		
3040 Installation Handbook (includes sealing kit)	15-60012	✓			
Automatic Tuning Whip Antenna 9350 Installation Handbook	15-04142-EN		✓		
CABLES					
Control NGT™/Envoy™ to 9350/304X Cable, 6 m	08-05627-006	✓	✓		
Coax Assembly Cable, UHF Connectors RG58, 6 m	08-01503-006	✓	✓		
Coax Assembly Cable, UHF Type Connectors, RG58, 30 m	08-01503-030			✓	✓
Earth Braid, 1.5 m	05-06374			✓	✓
TRANSCEIVER SUPPLY					
3020 Transceiver Supply	78-20022			✓	✓
Power IEC Cable	67-90305			✓	✓

denotes language version



NGT
TRANSCEIVER  **SERIES**



CODAN
RADIO COMMUNICATIONS

NGT™ SR TRANSCEIVER

PRODUCT	PART NO.	DESCRIPTION
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NGT-SR-TCVR



NGT™ SR Transceiver

The NGT™ SR Transceiver is the ideal solution to meet all your advanced system requirements, including remote control, split-site, high power communications, or base and mobile applications. It also accommodates the use of multiple control points for simultaneous connection of peripheral equipment like data modems and telephone interconnects.

The NGT™ SR comes with an RF unit, junction box, handset, speaker, cables, and mounting accessories for easy installation.

The transceiver incorporates the exceptional features renowned in all Codan NGT™ Transceivers, plus advanced calling capabilities including Emergency call, Selective call, Phone call, Message call, Diagnostics, Remote disable and Remote configuration.

Excellent options are available including Automatic Link Establishment (ALE) capabilities, voice encryption, and GPS, plus additional mounting accessories for multiple control points.

The standard transceiver consists of the parts listed below. The following pages detail the parts required for NGT™ SR Mobile and Base configurations.

COMPRISING:

- 08-05628-001
- 08-05629-001
- 08-05630-001
- 15-00129
- 15-00649
- 08-05610-006
- 30-11208-000
- 15-04127-##
- NGT™ SR 2010 RF Unit
- NGT™ SR 2020 Handset
- NGT™ SR 2030 Junction Box
- NGT™ Handset Cradle Kit
- External Speaker with 4 m Lead
- CIB Interface Cable, 6 m
- Self Adhesive Rubber Feet (x4)
- NGT™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, *Language Support* for translations of this guide)

STANDARD FEATURES:

- 400 channels, 1.6–30 MHz, 10 networks
- Scanning of multiple networks
- 125 W PEP, 12 V DC, USB/LSB/AM
- In-built *Easitalk™* speech noise reduction
- Meets MIL-STD-810F for shock, vibration and dust

AVAILABLE OPTIONS & ACCESSORIES:

See pages 22 and 45 for *NGT™ SR Options and Transceiver Accessories*.






denotes the cable variant depending upon country of use
denotes language version

NGT™ SR MOBILE		
PRODUCT	PART NO.	DESCRIPTION
NGT-SR-MOB		NGT™ SR Mobile Configuration
		The NGT™ SR Mobile Configuration consists of an NGT™ SR Transceiver, a 3040 Automatic Tuning Whip Antenna and cables, and vehicle installation hardware kit.
		COMPRISING:
		NGT™ SR Transceiver
	08-05628-001 08-05629-001 08-05630-001 15-00129 15-00649 08-05610-006 15-04127-##	<ul style="list-style-type: none"> • NGT™ SR 2010 RF Unit • NGT™ SR 2020 Handset • NGT™ SR 2030 Junction Box • NGT™ Handset Cradle Kit • External Speaker with 4 m Lead • CIB Interface Cable, 6 m • NGT™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide)
		3040 Automatic Tuning Whip with 6 m Cables
		The 3040 consists of the following parts. See page 89 for additional 3040 accessories.
	08-07007-001 08-05627-006 08-01503-006 08-07148-001 78-18058 78-23085 78-23086 15-60012	3040 Main Assembly Control NGT™/Envoy™ to 9350/304X Cable, 6 m Coax Assembly Cable, UHF Type Connectors, RG58, 6 m 3040 Spring Riser, Fibreglass 3040 Fibreglass Whip, 1.6 m 3040 Stainless Steel Whip, 1.65 m 3040 Automatic Whip Antenna Installation Handbook, c/w antenna connector sealing kit
	15-00130	NGT™/Envoy™ RF Cradle & Battery Cable Includes mounting cradle, fuse holder and fuse, earth wire and 6 m battery cable.
	15-00112	Complete Vehicle Installation Hardware Kit Includes assorted screws, cable ties and grommets.
		AVAILABLE OPTIONS & ACCESSORIES:
		See pages 22 and 51 for NGT™ SR Options and Mobile Accessories.

NGT™ SR BASE		
PRODUCT	PART NO.	DESCRIPTION
NGT-SR-BASE		NGT™ SR Base Station Configuration The NGT™ SR Base Station Configuration consists of an NGT™ SR Transceiver, a TFD411 Antenna, 3020 Heavy Duty Transceiver Supply, desk console, and cables. COMPRISING: NGT™ SR Transceiver <ul style="list-style-type: none"> • NGT™ SR 2010 RF Unit • NGT™ SR 2020 Handset • NGT™ SR 2030 Junction Box • NGT™ SR Desk Console • CIB Interface Cable, 6 m • Self Adhesive Rubber Feet (x4) • NGT™ Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide)
	08-05628-001 08-05629-001 08-05630-001 15-10471-000 08-05610-006 30-11208-000 15-04127-##	
	15-00411-004	TFD411 Antenna 125 W, 2–30 MHz, 34 m The antenna can be mounted horizontally between two support systems, or as an inverted “V” using a single central support mast.
	08-01503-030	Coax Assembly Cable, UHF Type Connectors, RG58, 30 m 30 m of high quality RG58 coaxial cable terminated with waterproof UHF style connectors.
	78-20022	3020 Transceiver Supply Power supply to convert AC Mains into 13.8 V DC to power the Transceiver.
	67-9030#	Power IEC Cable, 2 m Used to connect 3020 Transceiver Supply to AC Mains source. For cable options, see page 83, <i>3020 Transceiver Supply</i> .
	05-06374	Earth Braid, 1.5 m Used to connect the RF Unit to ground point.
		AVAILABLE OPTIONS & ACCESSORIES: See pages 22 and 53 for <i>NGT™ SR Options and Base Accessories</i> .

NGT™ SR OPTIONS		
PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10479	Opt FED-STD-1045 ALE/CALM™ Fully compatible with FED-STD-1045 ALE capabilities and enhanced with Codan Automated Link Management (CALM™). Standard call types include: Selective Call, All Call, Phone Call, Message Call, Diagnostic Call, Emergency Call.
<input checked="" type="checkbox"/>	15-10558	Opt, Default Open Selcall
<input checked="" type="checkbox"/>	15-10486	Opt GPS Calling Enables sending and receiving of GPS position information using Selcall or ALE (if enabled). NOTE: This feature is compatible with GPS receivers providing NMEA 0183 V2.0 (or later) output format. A GPS receiver is not supplied as part of this option. For a description of the GPS receiver available from Codan, see page 51, <i>Mobile Accessories</i> .
<input checked="" type="checkbox"/>	15-10504-000	Opt External ALC (Factory Fit) Required when using an NGT™ high power system. NOTE: This option is also available as a retro fit kit (part number 15-10504).
<input checked="" type="checkbox"/>	15-10513	Opt 100 W Reduces maximum transceiver output power to 100 W.
<input checked="" type="checkbox"/>	15-10481-000	Opt TxD, Tx Program Disabled (Factory Fit) Disables keypad programming of new transmit frequencies. For use in countries where front panel programming is prohibited by regulatory authorities, e.g. USA and Australia.
<input checked="" type="checkbox"/>	15-10491-000	Opt TxP, Tx Program Prohibited (Factory Fit) Prohibits keypad programming of new transmit and receive frequencies.
<input checked="" type="checkbox"/>	15-10541-000	Opt High Speed Data (Factory Fit) Hardware modification required for use with Codan HF Data Modems using high speed waveforms (RM50e, 3212).
<input checked="" type="checkbox"/>	15-10551	Opt Voice Scrambler (CIVS) Codan Integrated Voice Scrambler used to provide basic level voice security capability.

Continued on the next page

NGT™ SR OPTIONS cont.		
PRODUCT	PART NO.	DESCRIPTION
	15-10507-000	<p>Opt Voice Encryptor (Factory Fit)</p> <p>High grade Voice Encryptor Module for NGT™ series Transceivers. Provides high grade voice security with exceptional recovered audio quality.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10507). • This option is subject to Australian Defence Export Controls. A signed End-User Declaration must be provided for supply of this option.
	15-10552-000	<p>Opt AES-256 DV Encryptor Module (Factory Fit)</p> <p>Digital Voice Encryptor module providing excellent digital voice quality and high grade AES-256 bit encryption. Selectable vocoder rates of 1200 and 2400 bps are available as standard.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10552). • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.
	15-10506-000	<p>Opt 500 Hz BW Filter (Factory Fit)</p> <p>500 Hz narrow band filter. Recommended for use with CW (morse code).</p>
	15-10514-000	<p>Opt 2.7 kHz BW Second Filter (Factory Fit)</p> <p>2.7 kHz wide band filter. Required for use with Codan RM50e HF Data Modems.</p>
	15-10469-000	<p>Opt Fan (Factory Fit)</p> <p>Fan unit for continuous data transmission for Envoy™/NGT™ series Transceivers.</p> <p>NOTE:</p> <p>This option is also available as a retro fit kit (part number 15-10469).</p>

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NGT™ ASR TRANSCEIVER

PRODUCT	PART NO.	DESCRIPTION
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NGT-ASR-TCVR



NGT™ ASR Transceiver

The NGT™ ASR Transceiver is specifically designed for interoperability with non-Codan HF transceiver systems. The NGT™ ASR supports MIL-STD-188-141B advanced Automatic Link Establishment, which has been certified for interoperability by the US Joint Interoperability Test Command (JITC). It is suitable for advanced system configurations in base and mobile applications, and supports HF data modems using advanced military waveforms.

The NGT™ ASR comes with an RF unit, junction box, handset, speaker, cables, and mounting accessories for easy installation. It incorporates the exceptional features renowned in all Codan NGT™ Transceivers, plus GPS, high power, encryption, and advanced calling capabilities.

The standard transceiver consists of the parts listed below. The following pages detail the parts required for NGT™ ASR Mobile and Base configurations.

COMPRISING:

08-05628-007
08-05629-007
08-05630-007
15-00129
15-00649
08-05610-006
30-11208-000
15-10486
15-10514-000
15-10541-000
15-04137-EN

- NGT™ ASR 2010 RF Unit
- NGT™ ASR 2020 Handset
- NGT™ ASR 2030 Junction Box
- NGT™ Handset Cradle Kit
- External Speaker with 4 m Lead
- CIB Interface Cable, 6 m
- Self Adhesive Rubber Feet (x4)
- Opt GPS Calling
- Opt 2.7 kHz BW Second Filter (Factory Fit)
- Opt High Speed Data (Factory Fit)
- NGT™ ASR Transceiver Getting Started Guide, includes Reference Manual on CDROM (English)

STANDARD FEATURES:

- US FCC and NTIA approved
- MIL-STD-188-141B ALE included
- Last Heard Log and manual sounding
- 600 channels, 1.6–30 MHz, 20 networks
- Scanning of multiple networks
- 125 W PEP, 12 V DC, USB/LSB/AM
- In-built *Easitalk*™ speech noise reduction
- Meets MIL-STD-810F for shock, vibration and dust

AVAILABLE OPTIONS & ACCESSORIES:

See pages 28 and 45 for NGT™ ASR Options and Transceiver Accessories.









denotes the cable variant depending upon country of use

NGT™ ASR MOBILE		
PRODUCT	PART NO.	DESCRIPTION
NGT-ASR-MOB		NGT™ ASR Mobile Configuration
		The NGT™ ASR Mobile Configuration consists of an NGT™ ASR Transceiver, a 3040 Automatic Tuning Whip Antenna and cables, and vehicle installation hardware kit.
		COMPRISING:
		NGT™ ASR Transceiver
		<ul style="list-style-type: none"> • NGT™ ASR 2010 RF Unit • NGT™ ASR 2020 Handset • NGT™ ASR 2030 Junction Box • NGT™ Handset Cradle Kit • External Speaker with 4 m Lead • CIB Interface Cable, 6 m • Opt GPS Calling • Opt 2.7 kHz BW Second Filter (Factory Fit) • Opt High Speed Data (Factory Fit) • NGT™ ASR Transceiver Getting Started Guide, includes Reference Manual on CDROM (English)
		3040 Automatic Tuning Whip with 6 m Cables
		The 3040 consists of the following parts. See page 89 for additional 3040 accessories.
	08-05628-007 08-05629-007 08-05630-007 15-00129 15-00649 08-05610-006 15-10486 15-10514-000 15-10541-000 15-04137-EN	
	08-07007-001 08-05627-006 08-01503-006 08-07148-001 78-18058 78-23085 78-23086 15-60012 15-00130	3040 Main Assembly Control NGT™/Envoy™ to 9350/304X Cable, 6 m Coax Assembly Cable, UHF Type Connectors, RG58, 6 m 3040 Spring Riser, Fibreglass 3040 Fibreglass Whip, 1.6 m 3040 Stainless Steel Whip, 1.65 m 3040 Automatic Whip Antenna Installation Handbook, c/w antenna connector sealing kit
		NGT™/Envoy™ RF Cradle & Battery Cable Includes mounting cradle, fuse holder and fuse, earth wire and 6 m battery cable.
	15-00112	Complete Vehicle Installation Hardware Kit Includes assorted screws, cable ties and grommets.
		AVAILABLE OPTIONS & ACCESSORIES:
		See pages 28 and 51 for NGT™ ASR Options and Mobile Accessories.

NGT™ ASR BASE		
PRODUCT	PART NO.	DESCRIPTION
NGT-ASR-BASE		
NGT™ ASR Base Station Configuration		
The NGT™ ASR Base Station Configuration consists of an NGT™ ASR Transceiver, a TFD411 Antenna, 3020 Heavy Duty Transceiver Supply, desk console, and cables.		
COMPRISING:		
NGT™ ASR Transceiver		
	08-05628-007	• NGT™ ASR 2010 RF Unit
	08-05629-007	• NGT™ ASR 2020 Handset
	08-05630-007	• NGT™ ASR 2030 Junction Box
	15-10471-000	• NGT™ ASR Desk Console
	08-05610-006	• CIB Interface Cable, 6 m
	30-11208-000	• Self Adhesive Rubber Feet (x4)
	15-10486	• Opt GPS Calling
	15-10514-000	• Opt 2.7 kHz BW Second Filter (Factory Fit)
	15-10541-000	• Opt High Speed Data (Factory Fit)
	15-04137-EN	• NGT™ ASR Transceiver Getting Started Guide, includes Reference Manual on CDROM (English)
	15-00411-004	TFD411 Antenna 125 W, 2–30 MHz, 34 m
		The antenna can be mounted horizontally between two support systems, or as an inverted “V” using a single central support mast.
		NOTE:
		Mast is not included. For masts, see page 107, <i>Antenna Masts</i> .
	08-01503-030	Coax Assembly Cable, UHF Type Connectors, RG58, 30 m
		30 m of high quality RG58 coaxial cable terminated with waterproof UHF style connectors.
	78-20022	3020 Transceiver Supply
		Power supply to convert AC Mains into 13.8 V DC to power the Transceiver.
	67-9030#	Power IEC Cable, 2 m
		Used to connect 3020 Transceiver Supply to AC Mains source. For cable options, see page 83, <i>3020 Transceiver Supply</i> .
	05-06374	Earth Braid, 1.5 m
		Used to connect the RF Unit to ground point.




AVAILABLE OPTIONS & ACCESSORIES:

See pages 28 and 53 for *NGT™ ASR Options and Base Accessories*.

NGT™ ASR OPTIONS		
PRODUCT	PART NO.	DESCRIPTION
	15-10504-000	Opt External ALC (Factory Fit) Required when using an NGT™ high power system. NOTE: This option is also available as a retro fit kit (part number 15-10504).
	15-10513	Opt 100 W Reduces maximum transceiver output power to 100 W.
	15-10481-000	Opt TxD, Tx Program Disabled (Factory Fit) Disables keypad programming of new transmit frequencies. For use in countries where front panel programming is prohibited by regulatory authorities, e.g. USA and Australia.
	15-10491	Opt TxP, Tx Program Prohibited Prohibits keypad programming of new transmit and receive frequencies.
	15-10541-000	Opt High Speed Data (Factory Fit) Hardware modification required for use with Codan HF Data Modems using high speed waveforms (RM50e, 3212).
	15-10551	Opt Voice Scrambler (CIVS) Codan Integrated Voice Scrambler used to provide basic level voice security capability.
	15-10507-000	Opt Voice Encryptor (Factory Fit) High grade Voice Encryptor Module for NGT™ series Transceivers. Provides high grade voice security with exceptional recovered audio quality. NOTE: <ul style="list-style-type: none"> This option is also available as a retro fit kit (part number 15-10507). This option is subject to Australian Defence Export Controls. A signed End-User Declaration must be provided for supply of this option.
	15-10552-000	Opt AES-256 DV Encryptor Module (Factory Fit) Digital Voice Encryptor module providing excellent digital voice quality and high grade AES-256 bit encryption. Selectable vocoder rates of 1200 and 2400 bps are available as standard. NOTE: <ul style="list-style-type: none"> This option is also available as a retro fit kit (part number 15-10552). This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.

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NGT™ ASR OPTIONS CONT.

PRODUCT	PART NO.	DESCRIPTION
	15-10506-000	Opt 500 Hz BW Filter (Factory Fit) 500 Hz narrow band filter. Recommended for use with CW (morse code).
	15-10514-000	Opt 2.7 kHz BW Second Filter (Factory Fit) 2.7 kHz wide band filter. Required for use with Codan RM50e HF Data Modems.
	15-10469-000	Opt Fan (Factory Fit) Fan unit for continuous data transmission for Envoy™/NGT™ series Transceivers. NOTE: This option is also available as a retro fit kit (part number 15-10469).







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NGT™ SRx TRANSCEIVER		
PRODUCT	PART NO.	DESCRIPTION
<p>NGT-SRX-TCVR</p> 	<p>08-05628-009 08-05629-009 15-00129 15-00649 08-06022-001 30-11208-000 15-04140-##</p>	<p>NGT™ SRx Transceiver</p> <p>The NGT™ SRx Transceiver, capable of voice, email, fax, GPS tracking, telephone interconnection and high power communications, is the ideal solution to meet your modern HF needs — all in a single cost effective unit.</p> <p>The SRx comes with an RF unit, handset, speaker, cables, and mounting accessories for easy installation.</p> <p>The transceiver incorporates the exceptional features renowned in all Codan NGT™ Transceivers, plus advanced calling capabilities including Emergency call, Selective call, Phone call, Message call, Diagnostics, Remote disable and Remote configuration.</p> <p>Excellent options are available including Automatic Link Establishment (ALE) capabilities, voice encryption, and GPS, plus additional mounting accessories.</p> <p>The standard transceiver consists of the parts listed below. The following pages detail the parts required for NGT™ SRx Mobile and Base configurations.</p> <p>COMPRISING:</p> <ul style="list-style-type: none"> • NGT™ SRx 2012 RF Unit • NGT™ SRx 2020 Handset • NGT™ Handset Cradle Kit • External Speaker with 4 m Lead • Envoy™/NGT™ Handset Control Cable, 6 m • Self Adhesive Rubber Feet (x4) • NGT™ SRx Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide) <p>STANDARD FEATURES:</p> <ul style="list-style-type: none"> • General Purpose Interface Port (GPIO) • 400 channels, 1.6–30 MHz, 10 networks • Scanning of multiple networks • 125 W PEP, 12 V DC, USB/LSB/AM • In-built <i>Easitalk™</i> speech noise reduction • Morse capability • Meets MIL-STD-810F for shock, vibration and dust <p>AVAILABLE OPTIONS & ACCESSORIES:</p> <p>See pages 34 and 45 for <i>NGT™ SRx Options</i> and <i>Transceiver Accessories</i>.</p>

denotes the cable variant depending upon country of use
denotes language version

NGT™ SRx MOBILE		
PRODUCT	PART NO.	DESCRIPTION
NGT-SRX-MOB		NGT™ SRx Mobile Configuration
		The NGT™ SRx Mobile Configuration consists of an NGT™ SRx Transceiver, a 9350 Automatic Tuning Whip Antenna and cables, and vehicle installation hardware kit.
		COMPRISING:
		NGT™ SRx Transceiver
	08-05628-009 08-05629-009 15-00129 15-00649 08-06022-001 15-04140-##	<ul style="list-style-type: none"> • NGT™ SRx 2012 RF Unit • NGT™ SRx 2020 Handset • NGT™ Handset Cradle Kit • External Speaker with 4 m Lead • Envoy™/NGT™ Handset Control Cable, 6 m • NGT™ SRx Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide)
		3040 Automatic Tuning Whip with 6 m Cables
		The 3040 consists of the following parts. See page 89 for additional 3040 accessories.
	08-07007-001 08-05627-006 08-01503-006 08-07148-001 78-18058 78-23085 78-23086 15-60012	3040 Main Assembly Control NGT™/Envoy™ to 9350/304X Cable, 6 m Coax Assembly Cable, UHF Type Connectors, RG58, 6 m 3040 Spring Riser, Fibreglass 3040 Fibreglass Whip, 1.6 m 3040 Stainless Steel Whip, 1.65 m 3040 Automatic Whip Antenna Installation Handbook, c/w antenna connector sealing kit
	15-00130	NGT™/Envoy™ RF Cradle & Battery Cable Includes mounting cradle, fuse holder and fuse, earth wire and 6 m battery cable.
	15-00112	Complete Vehicle Installation Hardware Kit Includes assorted screws, cable ties and grommets.
		AVAILABLE OPTIONS & ACCESSORIES:
		See pages 34 and 51 for NGT™ SRx Options and Mobile Accessories.

NGT™ SRx BASE		
PRODUCT	PART NO.	DESCRIPTION
NGT-SRX-BASE		NGT™ SRx Base Station Configuration The NGT™ SRx Base Station Configuration consists of an NGT™ SRx Transceiver, a TFD411 Antenna, 3020 Heavy Duty Transceiver Supply, and cables.
	08-05628-009 08-05629-009 15-00766 30-11208-000 15-04140-##	COMPRISING: NGT™ SRx Transceiver <ul style="list-style-type: none"> • NGT™ SRx 2012 RF Unit • NGT™ SRx 2020 Handset • NGT Desk Console • Self Adhesive Rubber Feet (x4) • NGT™ SRx Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide)
	15-00411-004	TFD411 Antenna 125 W, 2–30 MHz, 34 m The antenna can be mounted horizontally between two support systems, or as an inverted V using a single central support mast.
	08-01503-030	Coax Assembly Cable, UHF Type Connectors, RG58, 30 m 30 m of high quality RG58 coaxial cable terminated with waterproof UHF style connectors.
	78-20022	3020 Transceiver Supply Power supply to convert AC Mains into 13.8 V DC to power the Transceiver.
	67-9030#	Power IEC Cable, 2 m Used to connect 3020 Transceiver Supply to AC Mains source. For cable options, see page 83, <i>3020 Transceiver Supply</i> .
	05-06374	Earth Braid, 1.5 m Used to connect the RF Unit to ground point.

AVAILABLE OPTIONS & ACCESSORIES:






See pages 34 and 53 for *NGT™ SRx Options and Base Accessories*.

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NGT™ SRx OPTIONS		
PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10479	<p>Opt FED-STD-1045 ALE/CALM™</p> <p>Fully compatible with FED-STD-1045 ALE capabilities and enhanced with Codan Automated Link Management (CALM™). Standard call types include: Selective Call, All Call, Phone Call, Message Call, Diagnostic Call, Emergency Call.</p>
<input checked="" type="checkbox"/>	15-10532	<p>Opt MIL-STD-188-141B ALE Full</p> <p>This option provides full MIL-STD-188-141B ALE capability, including all capabilities provided by the FED-STD-1045 (part number 15-10560) option above.</p> <p>Additional call types include, NET Call, ANY Call, Group Call, Wildcard Call, in-link AMD Message Calls, as well as an advanced ALE beacon and Last Heard station log.</p>
<input checked="" type="checkbox"/>	15-10558	<p>Opt, Default Open Selcall</p>
<input checked="" type="checkbox"/>	15-10486	<p>Opt GPS Calling</p> <p>Enables sending and receiving of GPS position information using Selcall or ALE (if enabled).</p> <p>NOTE:</p> <p>This feature is compatible with GPS receivers providing NMEA 0183 V2.0 (or later) output format. A GPS receiver is not supplied as part of this option.</p> <p>For a description of the GPS receiver available from Codan, see page 51, <i>Mobile Accessories</i>.</p>
<input checked="" type="checkbox"/>	15-10504-000	<p>Opt External ALC (Factory Fit)</p> <p>Required when using an NGT™ high power system.</p> <p>NOTE:</p> <p>This option is also available as a retro fit kit (part number 15-10504).</p>
<input checked="" type="checkbox"/>	15-10513	<p>Opt 100 W</p> <p>Reduces transceiver output power to 100 W.</p>
<input checked="" type="checkbox"/>	15-10481-000	<p>Opt TxD, Tx Program Disabled (Factory Fit)</p> <p>Disables keypad programming of new transmit frequencies. For use in countries where front panel programming is prohibited by regulatory authorities, e.g. USA and Australia.</p>
<input checked="" type="checkbox"/>	15-10491	<p>Opt TxP, Tx Program Prohibited</p> <p>Prohibits keypad programming of new transmit and receive frequencies.</p>

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NGT™ SRx OPTIONS CONT.

PRODUCT	PART NO.	DESCRIPTION
	15-10541-000	Opt High Speed Data (Factory Fit) Hardware modification required for use with Codan HF Data Modems using high speed waveforms (RM50e, 3212).
	15-10551	Opt Voice Scrambler (CIVS) Codan Integrated Voice Scrambler used to provide basic level voice security capability.
	15-10507-000	Opt Voice Encryptor (Factory Fit) High grade Voice Encryptor Module for NGT™ series Transceivers. Provides high grade voice security with exceptional recovered audio quality. NOTE: <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10507). • This option is subject to Australian Defence Export Controls. A signed End-User Declaration must be provided for supply of this option.
	15-10556-000	Opt ISB Processor 2012 (Factory Fit) This option is used to provide Independent Sideband (ISB) high speed data capability when the transceiver is combined with an ISB capable RM50e HF Data Modem. Data rates of up to 19200 bps are possible in this configuration. NOTE: <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10556). • Codan 3012 & 3212 HF Data Modems are not supported when the ISB Option is fitted. • This option is only available with NGT™ SRx & MR Transceivers. • On-air compatible with ISB data option in Envoy X2 transceiver, see page 12
	15-10552-000	Opt AES-256 DV Encryptor Module (Factory Fit) Digital Voice Encryptor module providing excellent digital voice quality and high grade AES-256 bit encryption. Selectable vocoder rates of 1200 and 2400 bps are available as standard. NOTE: <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10552). • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.

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denotes the cable variant depending upon country of use
denotes language version

NGT™ SRx OPTIONS CONT.

PRODUCT	PART NO.	DESCRIPTION
	15-10506-000	Opt 500 Hz BW Filter (Factory Fit) 500 Hz narrow band filter. Recommended for use with CW (morse code).
	15-10514-000	Opt 2.7 kHz BW Second Filter (Factory Fit) 2.7 kHz wide band filter. Required for use with Codan RM50e HF Data Modems.
	15-10469-000	Opt Fan (Factory Fit) Fan unit for continuous data transmission for Envoy™/NGT™ series Transceivers. NOTE: This option is also available as a retro fit kit (part number 15-10469).

NGT™ AR TRANSCEIVER

PRODUCT	PART NO.	DESCRIPTION
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NGT-AR-TCVR



NGT™ AR Transceiver

The NGT™ AR Transceiver is the ideal solution to meet all your modern HF needs from voice, email, fax, GPS tracking, and telephone interconnection to remote control, split-site and high power communications. It is suitable for base and vehicle applications, and is easy to use with an innovative, mobile phone-like handset with one-button shortcuts. Plus Codan's *Easitalk™* guarantees clear communications.

The AR Transceiver comes with an NGT™ RF unit, junction box, speaker, and mounting accessories for easy installation.

The radio incorporates the exceptional features renowned in all Codan NGT™ Transceivers, plus advanced calling capabilities including Emergency call, Selective call, Phone call, Message call, Diagnostics, Remote Disable and Remote Configuration.

Excellent options are available including Automatic Link Establishment (ALE), voice encryption, and GPS, plus additional mounting accessories.

The standard transceiver consists of the parts listed below. The following pages detail the additional parts required for NGT™ AR Mobile and Base configurations.

NOTE:

- In NGT™ AR Mobile configurations, rubber feet (part number 30-11208-000) are not included.
- In the NGT™ AR Base configuration (**NGT-AR-BASE-CON**), the handset cradle and external speaker (part numbers 15-00129 and 15-00649) are not included.

COMPRISING:

- 08-05628-003
- 08-05629-003
- 08-05630-003
- 15-00129
- 15-00649
- 08-05610-006
- 30-11208-000
- 15-04127-EN
- NGT™ AR 2010 RF Unit
- NGT™ AR 2020 Handset
- NGT™ AR 2030 Junction Box
- NGT™ Handset Cradle Kit
- External Speaker with 4 m Lead
- CIB Interface Cable, 6 m
- Self Adhesive Rubber Feet
- NGT™ Transceiver Getting Started Guide, includes Reference Manual on CDROM

STANDARD FEATURES:


- 400 channels, 1.6–30 MHz, 20 networks
- Scanning of multiple networks
- 100 W PEP, 12 V DC, USB
- In-built *Easitalk™* speech noise reduction
- Phone call
- Selective call
- Message call (64 characters)
- Morse capability
- Remote diagnostics with remote configuration and transmit disable capability
- Meets MIL-STD-810F for shock, vibration and dust

AVAILABLE OPTIONS & ACCESSORIES:

See pages 39 and 45 for *NGT™ AR Options and Transceiver Accessories*.



PART	PART NO.	NGT™ AR PACKAGES		
		Mobile (3040) NGT-AR-MOB-3040	Mobile (9350) NGT-AR-MOB	Base NGT-AR-BASE-CON
CONSOLE				
NGT™ AR Desk Console	15-10471-000			✓
ANTENNAS				
3040 Main Assembly	08-07007-001	✓		
Riser, Fibreglass, 0.8 m	78-18058	✓		
3040 Fibreglass Whip, 1.6 m	78-23085	✓		
3040 Stainless Steel Whip, 1.65 m	78-23086	✓		
3040 Spring	08-07148-001	✓		
9350 Main Assembly	08-05063-001		✓	
9350 Fibreglass Whip, 1.6 m	78-23007-003		✓	
9350 Tapered Stainless Steel Whip, 1.65 m	78-23056			
9350 Tapered Stainless Steel Whip, 1.2 m	78-23025		✓	
9350 Spring	08-05140-001		✓	
Ant, TFD411, 125 W, 2–30 MHz, 34 m	15-00411-004			✓
INSTALLATION HARDWARE				
NGT™/Envoy™ RF Cradle & Battery Cable	15-00130	✓	✓	
Complete Vehicle Installation Hardware Kit	15-00112	✓	✓	
3040 Installation Handbook (includes sealing kit)	15-60012	✓		
Automatic Tuning Whip Antenna 9350 Installation Handbook	15-04142-EN		✓	
CABLES				
Control NGT™/Envoy™ to 9350/304X Cable, 6 m	08-05627-006	✓	✓	
Coax Assembly Cable, UHF Connectors RG58, 6 m	08-01503-006	✓	✓	
Coax Assembly Cable, UHF Type Connectors, RG58, 30 m	08-01503-030			✓
Earth Braid, 1.5 m	05-06374			✓
TRANSCEIVER SUPPLY				
3020 Transceiver Supply	78-20022			✓
Power IEC Cable	67-90305			✓

NGT™ AR OPTIONS

PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10479	<p>Opt FED-STD-1045 ALE/CALM™</p> <p>Fully compatible with FED-STD-1045 ALE capabilities and enhanced with Codan Automated Link Management (CALM™). Includes facilities for Selective Calls, All Calls, Phone Calls, Text Messaging and GPS Position Calls.</p>
<input checked="" type="checkbox"/>	15-10486	<p>Opt GPS Calling</p> <p>Enables sending and receiving of GPS position information using Selcall or ALE (if enabled).</p> <p>NOTE:</p> <p>This feature is compatible with GPS receivers providing NMEA 0183 V2.0 (or later) output format. A GPS receiver is not supplied as part of this option.</p> <p>For a description of the GPS receiver available from Codan, see page 51, <i>Mobile Accessories</i>.</p>
<input checked="" type="checkbox"/>	15-10480	<p>Opt E</p> <p>Enables digital Selective Emergency call. This is not required for RFDS Emergency calling.</p>
<input checked="" type="checkbox"/>	15-10504-000	<p>Opt External ALC (Factory Fit)</p> <p>Required when using an NGT™ high power system.</p> <p>NOTE:</p> <p>This option is also available as a retro fit kit (part number 15-10504).</p>
<input checked="" type="checkbox"/>	15-10551	<p>Opt Voice Scrambler (CIVS)</p> <p>Codan Integrated Voice Scrambler used to provide basic level voice security capability.</p>
	15-10469-000	<p>Opt Fan (Factory Fit)</p> <p>Fan unit for continuous data transmission for Envoy™/NGT™ series Transceivers.</p> <p>NOTE:</p> <p>This option is also available as a retro fit kit (part number 15-10469).</p>

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NGT™ AR OPTIONS CONT.

PRODUCT	PART NO.	DESCRIPTION
	15-10507-000	<p>Opt Voice Encryptor (Factory Fit)</p> <p>High grade Voice Encryptor Module for NGT™ series Transceivers. Provides high grade voice security with exceptional recovered audio quality.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10507). • This option is subject to Australian Defence Export Controls. A signed End-User Declaration must be provided for supply of this option outside of Australia.
	15-10552-000	<p>Opt AES-256 DV Encryptor Module (Factory Fit)</p> <p>Digital Voice Encryptor module providing excellent digital voice quality and high grade AES-256 bit encryption. Selectable vocoder rates of 1200 and 2400 bps are available as standard.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10552). • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.

NGT™ SRx TRANSCEIVER

PRODUCT	PART NO.	DESCRIPTION
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NGT-SRX-TCVR-AUS



NGT™ SRx Transceiver

The NGT™ SRx Transceiver is the ideal solution to meet your modern HF needs including voice, email, fax, GPS tracking and telephone interconnection — all in a single cost effective unit.

The SRx Transceiver comes with an NGT™ RF unit, speaker, and mounting accessories for easy installation, and is suitable for base and vehicle applications.

The radio incorporates the exceptional features renowned in all Codan NGT™ radios, plus advanced calling capabilities including Emergency call, Selective call, Phone call, Message call, Diagnostics, Remote disable and Remote configuration. Excellent options are available including Automatic Link Establishment (ALE) capabilities, voice encryption, and GPS, plus additional mounting accessories.

The standard transceiver consists of the parts listed below. The following pages detail the additional parts required for NGT™ SRx Mobile and Base configurations.

NOTE:

In NGT™ SRx Mobile configurations, rubber feet (part number 30-11208-000) are not included.

COMPRISING:

- NGT™ SRx 2012 RF Unit
- NGT™ SRx 2020 Handset
- NGT™ Handset Cradle Kit
- External Speaker with 4 m Lead
- Envoy™/NGT™ Handset Control Cable, 6 m
- Self Adhesive Rubber Feet
- Opt SRx for Australia
- NGT™ SRx Transceiver Getting Started Guide, includes Reference Manual on CDROM

- 08-05628-009
- 08-05629-009
- 15-00129
- 15-00649
- 08-06022-001
- 30-11208-000
- 15-10540
- 15-04140-EN

STANDARD FEATURES:


- General Purpose Interface Port (GPIO)
- 400 channels, 1.6–30 MHz, 10 networks
- Scanning of multiple networks
- 100 W PEP, 12 V DC, USB
- In-built *Easitalk*™ speech noise reduction
- Phone call
- Selective call
- Message call (64 characters)
- Morse capability
- Remote diagnostics with remote configuration and transmit disable capability

Meets MIL-STD-810F for shock, vibration and dust

AVAILABLE OPTIONS & ACCESSORIES:



- See pages 49 and 45 for NGT™ SRx Options and Transceiver Accessories.

PART	PART NO.	NGT™ SRx PACKAGES		
		Mobile (3040) NGT-SRX-MOB-3040	Mobile (9350) NGT-SRX-MOB-AUS	Base NGT-SRX-BASE-AUS
CONSOLE				
NGT™ SRx Desk Console	15-00766			✓
ANTENNAS				
3040 Main Assembly	08-07007-001	✓		
Riser, Fibreglass, 0.8 m	78-18058	✓		
3040 Fibreglass Whip, 1.6 m	78-23085	✓		
3040 Stainless Steel Whip, 1.65 m	78-23086	✓		
3040 Spring	08-07148-001	✓		
9350 Main Assembly	08-05063-001		✓	
9350 Fibreglass Whip, 1.6 m	78-23007-003		✓	
9350 Tapered Stainless Steel Whip, 1.2 m	78-23025		✓	
9350 Spring	08-05140-001		✓	
Ant, TFD411, 125 W, 2–30 MHz	15-00411-004			✓
INSTALLATION HARDWARE				
NGT™/Envoy™ RF Cradle & Battery Cable	15-00130	✓	✓	
Complete Vehicle Installation Hardware Kit	15-00112	✓	✓	
3040 Installation Handbook (includes sealing kit)	15-60012	✓		
Automatic Tuning Whip Antenna 9350 Installation Handbook	15-04142-EN		✓	
CABLES				
Control NGT™/Envoy™ to 9350/304X Cable, 6 m	08-05627-006	✓	✓	
Coax Assembly Cable, UHF Connectors RG58, 6 m	08-01503-006	✓	✓	
Coax Assembly Cable, UHF Type Connectors, RG58, 30 m	08-01503-030			✓
Earth Braid, 1.5 m	05-06374			✓
TRANSCEIVER SUPPLY				
3020 Transceiver Supply	78-20022			✓
Power IEC Cable	67-90305			✓

NGT™ SRx OPTIONS		
PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10540	<p>Opt SRx for Australia</p> <p>This option provides Australian compliance for NGT™ SRx Transceivers.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option also includes digital Selective Emergency call (Opt E, part number 15-10480). • This option is for Australian customers only.
<input checked="" type="checkbox"/>	15-10479	<p>Opt FED-STD-1045 ALE/CALM™</p> <p>Fully compatible with FED-STD-1045 ALE capabilities and enhanced with Codan Automated Link Management (CALM™). Includes facilities for Selective Calls, All Calls, Phone Calls, Text Messaging and GPS Position Calls.</p>
<input checked="" type="checkbox"/>	15-10486	<p>Opt GPS Calling</p> <p>Enables sending and receiving of GPS position information using Selcall or ALE (if enabled).</p> <p>NOTE:</p> <p>This feature is compatible with GPS receivers providing NMEA 0183 V2.0 (or later) output format. A GPS receiver is not supplied as part of this option.</p> <p>For a description of the GPS receiver available from Codan, see page 51, <i>Mobile Accessories</i>.</p>
<input checked="" type="checkbox"/>	15-10551	<p>Opt Voice Scrambler (CIVS)</p> <p>Codan Integrated Voice Scrambler used to provide basic level voice security capability.</p>
	15-10469-000	<p>Opt Fan (Factory Fit)</p> <p>Fan unit for continuous data transmission for Envoy™/NGT™ series Transceivers.</p> <p>NOTE:</p> <p>This option is also available as a retro fit kit (part number 15-10469).</p>

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NGT™ SRx OPTIONS CONT.



PRODUCT	PART NO.	DESCRIPTION
	15-10507-000	<p>Opt Voice Encryptor (Factory Fit)</p> <p>High grade Voice Encryptor Module for NGT™ series Transceivers. Provides high grade voice security with exceptional recovered audio quality.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10507). • This option is subject to Australian Defence Export Controls. A signed End-User Declaration must be provided for supply of this option outside of Australia.
	15-10552-000	<p>Opt AES-256 DV Encryptor Module (Factory Fit)</p> <p>Digital Voice Encryptor module providing excellent digital voice quality and high grade AES-256 bit encryption. Selectable vocoder rates of 1200 and 2400 bps are available as standard.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10552). • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.











Accessories


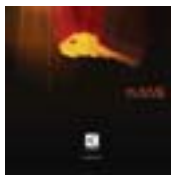
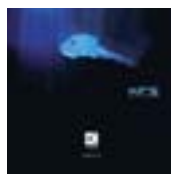


TRANSCIVER ACCESSORIES		
PRODUCT	PART NO.	DESCRIPTION
	08-07000-001 <i>For ENVOY SERIES</i>	Envoy™ 2220 Handset The 2220 Handset provides full programming and operation of the Envoy™ X1 and X2 Transceivers from the handset. It features a large format colour screen, easy-to-use navigation keys, and a full alphanumeric keypad including special function macros. The handset also features a micro USB port for PC (TPS-3250) and memory stick programming/firmware upgrade and control of the embedded transceiver modem (if enabled).
	08-07000-001 <i>For ENVOY SERIES</i>	Envoy™ 2221 Limited Keypad Handset The 2221 reduced keypad Handset is compatible with Envoy™ X1 and X2 Transceivers and supports the same capabilities as the 2220 Handset but is tailored for basic operation. The 2221 Handset is most suited for transceivers that will be configured by PC (TPS-3250) or memory stick prior to deployment but handset based programming is available.
	08-06022-001 08-06022-006 08-06022-030 <i>For ENVOY SERIES</i>	Cable, NGT / Envoy™ Handset Control, 0.5 m Cable, NGT / Envoy™ Handset Control, 6 m Cable, NGT / Envoy™ Handset Control, 30 m
	08-07205-001 08-07205-006 08-07205-030 <i>For ENVOY SERIES</i>	Cable, Envoy™ Console to RF Unit, 1 m Cable, Envoy™ Console to RF Unit, 6 m Cable, Envoy™ Console to RF Unit, 30 m
	08-05610-001 08-05610-002 08-05610-006 08-05610-030 <i>For SR, ASR, AR</i>	Cable, CIB Interface, 0.5 m Cable, CIB Interface, 2 m Cable, CIB Interface, 6 m Cable, CIB Interface, 30 m
	08-06213-001 <i>For ASR</i>	Cable, VP-116 Interface Interface cable for connecting a VP-116 Voice Privacy Unit to an NGT™ ASR VP-116 Junction Box.

Continued on the next page




TRANSCEIVER ACCESSORIES CONT.		
PRODUCT	PART NO.	DESCRIPTION
	08-06222-001 <i>For ASR</i>	Junction Box, NGT™ ASR VP-116 NGT™ ASR Junction Box suitable for interfacing with a VP-116 Voice Privacy Unit. Replaces the standard NGT™ ASR Junction Box.
	08-06330-001 <i>For ASR</i>	Cable, NGT™ to Q9600 Modem, 1 m Interface cable for an NGT™ ASR Junction Box to a Rockwell-Collins Q9600 Modem.

TRANSCIVER ACCESSORIES CONT.		
PRODUCT	PART NO.	DESCRIPTION
	08-03255 <i>For ALL TCVRs</i>	Cable, Battery, 6 m
	08-03255-008 <i>For ALL TCVRs</i>	Cable, Battery, 8 m
	08-04515-001 <i>For ALL TCVRs</i>	Earth Wire, 0.5 m
	05-06374 <i>For ALL TCVRs</i>	Earth Braid, 1.5 m
	15-04178-CD <i>For ENVOY SERIES</i>	TPS-3250 Envoy™ Programming Software CD Software used to program Envoy™ series Transceivers. Envoy™ Programming Cable (part number 08-07214-001) needs to be ordered separately.
	08-07214-001 <i>For ENVOY SERIES</i>	Cable, Envoy™ USB Programming Interface cable to program Envoy™ series Transceivers from a PC.
	67-90406 <i>For ENVOY SERIES</i>	Cable, USB Adaptor for Memory Stick Programming Enables connection of a conventional USB memory stick to Envoy™ series Handset or Desk Console.
	08-07318-001 08-07318-002 <i>For ENVOY SERIES</i>	USB to 6-way data interface cable for use with MIL-STANAG 2G Data (using RC50-C application). Cable connects to 6-way serial port on Envoy transceiver RF unit. Cable, USB to 6-way (6 m) Cable, USB to 6-way (2 m)

Continued on the next page

TRANSCEIVER ACCESSORIES CONT.		
PRODUCT	PART NO.	DESCRIPTION
	08-06952-001 08-06952-002 <i>For ENVOY SERIES</i>	USB to 15-way data interface cable for use with MIL-STANAG 2G Data (using RC50-C application), and Opt 2400 bps Internal Data Modem (using UUPlus applications). Cable connects to 15-way GP port on Envoy transceiver RF unit. Cable, USB to 15-way (2 m) Cable, USB to 15-way (6 m)
	15-04168-EN <i>For ALL TCVRS</i>	Key Management Software (KMS) Key Management Software (KMS) enables you to manage and program encryption keys for Codan's NGT™/2110/ Envoy™ series Transceivers and stand-alone encrypted devices, e.g. RM50e HF Data Modem. NOTE: • This product is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.
	15-04171-EN <i>For ALL TCVRS</i>	Key Fill Software (KFS) Key Fill Software (KFS) enables you to program encryption keys into Codan's NGT™/2110/Envoy™ series Transceivers and stand-alone encryption devices, e.g. RM50e HF Data Modem. NOTE: • This product is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.
	08-06380-001 <i>For SRx, AR Voice & ENVOY SERIES</i>	Cable, Serial 6-way to D9F 9-way D to 6-way Molex Interface Cable for transceiver serial control of NGT™ SRx, AR Voice and Envoy™ X1 & X2 Transceivers.
	08-06266-001 <i>For SRx, SR, ASR, AR & ENVOY X2</i>	Cable, Data Interface D9F to D15M 9-way D to 15-way D Interface Cable for transceiver serial control for Envoy™ X2 Transceivers. The cable can also be used for key programming (KMS/KFS) for NGT™ SRx, SR, ASR, AR .



Continued on the next page

TRANSCEIVER ACCESSORIES CONT.		
PRODUCT	PART NO.	DESCRIPTION
	15-04164-EN <i>For NGT SERIES</i>	NSP Software CD Package Software used to program NGT™ series Transceivers. NSP interface cable (part number 08-05123-001) needs to be ordered separately.
	08-05123-001 <i>For NGT SERIES</i>	Cable, NSP Interface Interface cable to program NGT™ series Transceivers from a PC.
	78-01031 <i>For NGT SERIES</i>	Adaptor, USB to DB-9, Serial Port USB V1.1 compliant and supports Microsoft Windows™ 2000/XP/Vista/WIN7. Not suitable to be used when upgrading transceiver firmware.

TRANSCIVER ACCESSORIES		
PRODUCT	PART NO.	DESCRIPTION
	15-00662 <i>For SRx, SR, ASR & ENVOY SERIES</i>	Morse Key for NGT™/Envoy™ Morse Key to suit NGT™/Envoy™ for desktop operation. Terminated to 15-way GP port connector.
	15-00668 <i>For ENVOY SERIES</i>	Morse Key, 2230 Desk Console Morse key for use with the Envoy 2230 Desk Console. Connects to the 8 pin accessory connector.
	08-06262-001 <i>For NGT and ENVOY SERIES</i>	Dual Antenna Selector Antenna selector switch used for connecting two antennas to an NGT/Envoy RF Unit. The dual antenna switch connects to the RF coax and antenna control connectors of the RF Unit. The switch supports the connection of one 9103 tuner and an HF broadband antenna or two HF broadband antennas. Coaxial connectors are UHF type.
	15-10469-000	Opt Fan (Factory Fit) Fan unit for continuous data transmission for Envoy™/NGT™ series Transceivers. NOTE: This option is also available as a retro fit kit (part number 15-10469).
	15-04177-EN <i>For ENVOY SERIES</i>	Getting Started Guide, Envoy™ Transceiver, includes Reference Manual on CDROM Printed Getting Started Guide for the Envoy™ Transceiver. See page 165, <i>Language Support</i> for translations of this guide.
	15-04143-EN <i>For NGT SERIES</i>	Repair Guide, NGT™ Transceiver (English) Printed Repair Guide for the NGT™ series Transceiver.
	15-04143-CD <i>For NGT SERIES</i>	Repair Guide, NGT™ Transceiver, on CDROM (English)

Continued on the next page

TRANSCIVER ACCESSORIES CONT.

PRODUCT	PART NO.	DESCRIPTION
	15-04127-## <i>For NGT SERIES</i>	Getting Started Guide, NGT™ Transceiver, includes Reference Manual on CDROM Printed Getting Started Guide for the NGT™ Transceiver. See page 165, <i>Language Support</i> for translations of this guide.
	15-04137-## <i>For ASR</i>	Getting Started Guide, NGT™ ASR Transceiver, includes Reference Manual on CDROM Printed Getting Started Guide for the NGT™ Transceiver. See page 165, <i>Language Support</i> for translations of this guide.

MOBILE ACCESSORIES




PRODUCT	PART NO.	DESCRIPTION
	15-00771 <i>For SR, ASR, AR</i>	GPS Receiver/Antenna Includes: <ul style="list-style-type: none"> • Receiver/antenna • Magnetic mounting bracket • NGT™ Transceiver interconnecting cables to suit 15 pin NGT™ Junction Box connector Features: <ul style="list-style-type: none"> • Integrated antenna and GPS receiver • Tracking up to 12 satellites
	15-00765 <i>For SRx, AR Voice, SRx (AUS) & ENVOY SERIES</i>	GPS Receiver/Antenna Includes: <ul style="list-style-type: none"> • Receiver/antenna • Magnetic mounting bracket • NGT™/Envoy™ Transceiver interconnecting cables Features: <ul style="list-style-type: none"> • Integrated antenna and GPS receiver • Tracking up to 12 satellites
	08-05847-001 <i>For SR, ASR, AR</i>	Interface Adaptor Interface adaptor to enable simultaneous connection of a GPS receiver and a 3012 HF Data Modem to the NGT™ Transceiver.
	15-00704 <i>For ALL TCVRs</i>	Vehicle Interference Suppression Kit Comprises of interference filters, copper braid, earth strap and fitting instructions.

Continued on the next page



MOBILE ACCESSORIES CONT.		
PRODUCT	PART NO.	DESCRIPTION
	15-00508 <i>For ALL TCVRs</i>	Voltage Regulator (24 V to 12 V operation 20 A) Enables the operation of NGT™/Envoy™ series Transceivers in 24/26 V based systems. Protected from faults such as voltage spikes, overload, short circuits and low voltage input. The unit automatically resets once a fault is removed.
	15-00130 <i>For ALL TCVRs</i>	NGT™/Envoy™ RF Cradle & 6 m Battery Cable Includes mounting cradle, fuse holder and fuse, earth wire and 6 m battery cable.
	15-60031 <i>For ALL TCVRs</i>	NGT™/Envoy™ RF Cradle & 8 m Battery Cable Includes mounting cradle, fuse holder and fuse, earth wire and 8 m battery cable.
	15-00112 <i>For ALL TCVRs</i>	Complete Vehicle Installation Hardware Kit Includes assorted screws, cable ties and grommets.
	15-00136 <i>For ALL TCVRs</i>	Cradle, Envoy™/NGT™ RF Unit Mounting
	15-00129 <i>For NGT SERIES</i>	Cradle Kit, NGT™ Handset
	15-00149 <i>For ENVOY SERIES</i>	Cradle Kit, Envoy™ Handset
	08-03255 <i>For ALL TCVRs</i>	Cable, Battery, 6 m
	08-03255-008 <i>For ALL TCVRs</i>	Cable, Battery, 8 m

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MOBILE ACCESSORIES CONT.

PRODUCT	PART NO.	DESCRIPTION
	15-00702 <i>For ALL TCVRs</i>	Cable Kit for Float Charge Cable kit for float charging lead-acid storage battery for uninterrupted supply. For batteries, see page 86, <i>Batteries</i> .
	15-00711 <i>For ALL TCVRs</i>	Fuse Holder with 32 A Fuse
	15-00712 <i>For ALL TCVRs</i>	Fuse, 32 A





BASE ACCESSORIES

PRODUCT	PART NO.	DESCRIPTION
	08-07204-001 <i>For ENVOY SERIES</i>	Desk Console 2230, Envoy™ An optional Envoy™ Desk Console for the Envoy™ Transceiver, incorporating an in-built speaker, hand PTT switch, in-built headphone output, and a 2 m transceiver interface cable. NOTE: The standard microphone for the 2230 Desk Console is the Boom Microphone (part number 15-60025) and must be ordered separately to the main console unit. The 2230 Desk Console may connect to the Envoy™ RF Unit via a dedicated control cable (part number 08-07205-00X), see page 45, <i>Transceiver Accessories</i> , or via Ethernet, see page 117, <i>Envoy Remote Control Accessories — Ethernet</i> .
	15-10471 <i>For SR, ASR, AR</i>	Desk Console, NGT™ SR/ASR/AR An optional NGT™ SR/ASR/AR Desk Console for the NGT™ Transceiver, incorporating an in-built speaker, hand PTT switch, goose-neck microphone, and in-built headphone output. NOTE: When an SR/ASR/AR Transceiver is ordered with a desk console, part number 15-10471-000 should be used for the console so that the junction box will be fitted to the console at the factory.

Continued on the next page

BASE ACCESSORIES CONT.		
PRODUCT	PART NO.	DESCRIPTION
	15-00766 <i>For VR, SRx, AR Voice, SRx (AUS)</i>	Desk Console, NGT™ VR/SRx/AR Voice An optional NGT™ VR/SRx/AR Voice Desk Console for the NGT™ VR/SRx/AR Voice Transceiver, incorporating an in-built speaker, hand PTT switch, goose-neck microphone, in-built headphone output, and a 2 m transceiver interface cable. NOTE: When the transceiver is ordered with an optional desk console (part number 15-00766), an NGT™ handset cradle (part number 15-00129), external speaker (part number 15-00649) and NGT™ Control cable (part number 08-06022-001) are not included.
	15-00602 <i>For NGT SERIES</i>	Desk Console Headphones, NGT™ Headphones suitable for the NGT™ ASR Desk Console.
	15-60028 <i>For ENVOY SERIES</i>	Desk Console Headphones, Envoy™ Headphones suitable for the Envoy™ Desk Console.
	15-60026 <i>For ENVOY SERIES</i>	Desk Console Headset, Envoy™
	15-60025 <i>For ENVOY SERIES</i>	Desk Console Boom Microphone, Envoy™

denotes language version

BASE ACCESSORIES CONT.		
PRODUCT	PART NO.	DESCRIPTION
	15-60024	Desk Console Hand-held Microphone, Envoy™
	<i>For ENVOY SERIES</i>	
	15-60027	Desk Console PTT footswitch, Envoy™
	<i>For ENVOY SERIES</i>	
	15-00668	Morse Key, 2230 Desk Console Morse key for use with the Envoy 2230 Desk Console. Connects to the 8 pin accessory connector.
	<i>For ASR</i>	
CONTROL-POINT-ASR-6M	<i>For ASR</i>	NGT™ ASR Control Point Kit An additional control point incorporating the following parts. COMPRISING: NGT™ ASR 2020 Handset NGT™ ASR 2030 Junction Box NGT™ Handset Cradle Kit External Speaker with 4 m Lead CIB Interface Cable, 6 m
	08-05629-007	NGT™ ASR 2020 Handset
	08-05630-007	NGT™ ASR 2030 Junction Box
	15-00129	NGT™ Handset Cradle Kit
	15-00649	External Speaker with 4 m Lead
	08-05610-006	CIB Interface Cable, 6 m

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BASE ACCESSORIES CONT.		
PRODUCT	PART NO.	DESCRIPTION
CONTROL-POINT-SR-6M	<i>For SR</i>	NGT™ SR Control Point Kit An additional control point incorporating the following parts.
	08-05629-001	COMPRISING: NGT™ SR 2020 Handset
	08-05630-001	NGT™ SR 2030 Junction Box
	15-00129	NGT™ Handset Cradle Kit
	15-00649	External Speaker with 4 m Lead
	08-05610-006	CIB Interface Cable, 6 m
CONTROL-POINT-AR-6M	<i>For AR</i>	NGT™ AR Control Point Kit An additional control point incorporating an NGT™ AR 2020 Handset and cradle, NGT™ AR 2030 Junction Box, loudspeaker and 6 m CIB cable.
	08-05629-003	COMPRISING: NGT™ AR 2020 Handset
	08-05630-003	NGT™ AR 2030 Junction Box
	15-00129	NGT™ Handset Cradle Kit
	15-00649	External Speaker with 4 m Lead
	08-05610-006	CIB Interface Cable, 6 m

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RC50-C HF EMAIL SOFTWARE



PRODUCT	PART NO.	DESCRIPTION
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15-04161-CD

RC50-C HF Email Software

Codan's RC50-C HF Email software provides fast, efficient, error free email capability over HF radio. Operating in conjunction with Codan's HF Transceivers and 2G Data Modems, the software operates on a standard Windows™ PC using a single USB port with no specialised PC hardware requirements. When installed, the software runs in the background requiring no user interaction.

COMPATIBILITY:

For use with external RM50e HF Data Modem (NGT™ AR, SRx, SR, ASR, Envoy™ X2 Transceivers) and 2G embedded data modem (Envoy X2 and 2110 Manpack transceiver)

COMPRISING:

- CD-ROM with RC50-C software and documentation

STANDARD FEATURES:

- Adaptive rates up to 19200 bit/s (ISB only) or 9600 bit/s
- Compatible with ALE/CALM™
- Intranet/Internet gateway
- NATO interoperable
- ISB capable




SYSTEM REQUIREMENTS:


- Windows™ XP Professional SP2 or Windows™ 7
- Intel Pentium IV 800 MHz or better
- 6 GB or more of free space for email storage
- 512 MB or more of RAM
- CD-ROM drive
- POP3 / SMTP compliant email client
- Access to any commercial POP3 / SMTP compliant email server for internet connectivity
- Serial/USB port for connecting the HF modem to the PC

NOTE:




- The ISB capability is only supported by an NGT™ SRx Transceiver fitted with the ISB Option, see page 35, *Opt ISB Processor 2012 (Factory Fit)* or Envoy X2 fitted with 2G data options (15-10589-000 or 15-10590-000) and the ISB option (15-10598).
- Requires Data Interface Cable (part number 08-06901-001) for connecting PC to an RM50e data modem.
- Requires Data Interface Cable (08-06952 or 08-07318) for connecting the PC to an Envoy with 2G Data Modem option (part number 15-10589).

RC50-C CABLE OPTIONS

PRODUCT	PART NO.	DESCRIPTION
	08-07318-001 08-07318-002 <i>For ENVOY SERIES</i>	USB to 6-way data interface cable for use with MIL-STANAG 2G Data (using RC50-C application). Cable connects to 6-way serial port on Envoy transceiver RF unit. Cable, USB to 6-way (6 m) Cable, USB to 6-way (2 m)
	08-06952-001 08-06952-002 <i>For ENVOY SERIES</i>	USB to 15-way data interface cable for use with MIL-STANAG 2G Data (using RC50-C application) cable connects to 15-way GP port on Envoy transceiver RF unit. Cable, USB to 15-way (2 m) Cable, USB to 15-way (6 m)
	08-06901-001	USB to 19-way MIL Interface Cable for use with RM50e HF Data Modem (using RC50-C application. Cable connects to 19-pin connector on RM50e HF Data Modem. Cable, Data Interface 19-way MIL to USB A, (2 m)

UUPLUS™ SOFTWARE		
PRODUCT	PART NO.	DESCRIPTION
	08-05981-001	<p>UUPlus™ Email for HF Server Software</p> <p>Provides HF and Internet email access for up to 25 users. It works in conjunction with UUPlus™ Email for HF Codan Client software, used by each remote station. It has been specifically designed for use with Codan's HF equipment.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • One copy of UUPlus™ Codan Client is required for each user that is to connect to UUPlus™ Codan Server. • A UUPlus™ Codan Server cannot communicate directly to other UUPlus™ Codan Server stations. <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • For use with 3012 and 3212 HF Data Modems, and Envoy™ X2 2400 bit/s embedded modem <p>COMPRISING:</p> <ul style="list-style-type: none"> • CD-ROM with UUPlus™ Codan Server software and documentation • Single user licence for installation on one machine <p>STANDARD FEATURES:</p> <ul style="list-style-type: none"> • Simple to install and maintain. • Works with POP3/SMTP PC email clients such as Outlook Express™. • Reduces connection time by compressing and combining messages • Automatically resumes interrupted file transfers • Capable of automatically calling the remote user at preset times to deliver mail and collect outgoing mail, or enables the user to check mail manually <p>SYSTEM REQUIREMENTS:</p> <ul style="list-style-type: none"> • Codan HF SSB Transceiver • Microsoft Windows™ XP/WIN7 • Internet email client with support of POP3 and SMTP protocols • Serial/USB port for connecting the HF modem to the PC • Optional LAN, dialup networking card or line modem for connecting local email clients and server to the internet • Codan 3012, 3212 HF Data Modems or Envoy X2 2400 bit/s embedded modem

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UUPLUS CABLE OPTIONS		
PRODUCT	PART NO.	DESCRIPTION
	08-06952-001	Cable, USB to 15-way (2 m)
	08-06952-002 <i>For ENVOY SERIES</i>	Cable, USB to 15-way (6 m)
	08-05086-001	Data Interface Cable (2 m)
	08-05086-006	Data Interface Cable (6 m)
	78-01031	Adaptor, USB to DB-9, Serial USB to 9-way serial adaptor cable. USB V1.1 compliant and supports Microsoft Windows™ 2000/XP/Vista/WIN7.

UUPLUS™ SOFTWARE

PRODUCT	PART NO.	DESCRIPTION
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08-05980-001

UUPlus™ Email for HF Client Software

Simple and reliable solution for sending email over HF from remote areas. It works in conjunction with UUPlus™ Codan Server software and has been specifically designed for use with Codan's HF equipment.

COMPATIBILITY:

- For use with 3012 and 3212 HF Data Modems, and Envoy™ X2 2400 bit/s embedded modem

COMPRISING:

- CD-ROM with UUPlus™ Codan Client software and documentation
- Single user licence for installation on one machine




STANDARD FEATURES:

- Simple to install and maintain.
- Works with POP3/SMTP PC email clients such as Outlook Express™.
- Reduces connection time by compressing and combining messages
- Automatically resumes interrupted file transfers
- Capable of automatically answering calls from the server to exchange mail at preset times, or enables the user to check for mail manually
- Able to send files directly to other stations

SYSTEM REQUIREMENTS:

- Codan HF SSB Transceiver
- Microsoft Windows™ XP/WIN7
- Internet email client with support of POP3 and SMTP protocols
- Codan 3012, 3212 HF Data Modem or Envoy X2 2400 bit/s embedded modem
- Serial/USB port for connecting the HF modem to the PC

UUPLUS CABLE OPTIONS

PRODUCT	PART NO.	DESCRIPTION
	<p>08-06952-001 08-06952-002 For <i>ENVOY SERIES</i></p>	<p>USB to 15-way data interface cable for use with 2400 bit/s internal data modem (using UUPlus applications) cable connects to 15-way GP port on Envoy transceiver RF unit.</p> <p>Cable, USB to 15-way (2 m) Cable, USB to 15-way (6 m)</p>
	<p>08-05086-001 08-05086-006</p>	<p>9-way to 9-way serial data interface cable to connect PC (using UUPlus applications) to 3012 data modem.</p> <p>Data Interface Cable (2 m) Data Interface Cable (6 m)</p>
	<p>78-01031</p>	<p>Adaptor, USB to DB-9, Serial USB to 9-way serial adaptor cable.</p> <p>USB V1.1 compliant and supports Microsoft Windows™ 2000/XP/Vista/WIN7.</p>

RM50e HF DATA MODEM		
PRODUCT	PART NO.	DESCRIPTION



08-06978-001

RM50e HF Data Modem

The RM50e is a high performance MIL-spec HF modem designed to connect to the NGT™/Envoy™ family of radios. Compatible with the RM50 in the 2110 series Manpack, this modem provides legacy interoperability with systems running Fixed Frequency and ALE networks operating STANAG 5066 email.

The RM50e operates using the most highly advanced Military Standard (MIL-STD) waveforms, including STANAG 4539 and MIL-STD-188-110A/B, providing adaptive rates from 75–9600 bit/s coded. When used in conjunction with an ISB capable NGT™, even higher rates of up to 19200 bit/s are available using MIL-STD-188-110B Appendix F waveforms.

COMPATIBILITY:

- With NGT™ series and Envoy™ X2 Transceivers

NOTE:

- For use in ISB mode, an NGT™ SRx Transceiver must be used and fitted with Opt ISB Processor (part number 15-10556-000), see page 35, *Opt ISB Processor 2012 (Factory Fit)*.
- ISB mode using the RM50e HF Data modem is not supported when combined with an Envoy X2 transceiver
- This product is subject to Australian Government Export Controls.
- A signed End-User Declaration must be provided for supply of this product.





STANDARD FEATURES:

- Compatible with RM50 (2110M Manpack Internal Modem)
- MIL-STD Waveforms (MIL-STD-188-110A, MIL-STD-188-110B (Inc. Appendix F), STANAG 4285, STANAG 4529, STANAG 4415, STANAG 4539)
- ISB capable
- Data Encryption (AES-256 bit Algorithm, up to 256 stored keys, Key fill via Codan Key Management Software (KMS))
- MIL-STD-810F Immersion, Dust, Vibration

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RM50e HF DATA MODEM CONT.



PRODUCT	PART NO.	DESCRIPTION
AVAILABLE OPTIONS:		
<ul style="list-style-type: none"> • Support for RC50-C software, see page 59, <i>RC50-C HF Email Software</i>. 		
	08-07167-001	RM50e to NGT™/Envoy™ Transceiver Interface Cable, 1 m
	08-07167-006	RM50e to NGT™/Envoy™ Transceiver Interface Cable, 6 m
	08-06901-001	Data Interface 19way MIL to USB A Cable
	15-04167-EN	RM50e HF Data Modem Operator Guide

denotes language version

3012 HF DATA MODEM (NO CABLES)



PRODUCT	PART NO.	DESCRIPTION
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MODEM-3012-NC

3012 HF Data Modem (No Cables)

The 3012 HF Data Modem provides reliable and cost-effective computer text and data communication capabilities for organisations operating in remote areas with little or no telecommunications infrastructure.



COMPATIBILITY:

- With NGT™ SRx, SR, ASR, AR Transceivers

COMPRISING:

- 3012 HF Data Modem
- Earth Wire, 0.5 m
- Self Adhesive Rubber Feet (x4)
- 3012 HF Data Modem User Guide on CDROM (English)

STANDARD FEATURES:

- Up to 6000 bit/s, error-free data transmission with compression
- In-built data compression
- Backwards compatible with the Codan 9001/9002 HF Data Modems
- Data scrambled for security
- In-built serial port optical isolator
- Easy to use AT command interface

AVAILABLE OPTIONS:

- Support for UUPlus™ *Email for HF* Client or Server software, see page 61, *UUPlus Software*.

08-05877-004
08-04515-001
30-11208-000
15-04104-CD



3012 HF DATA MODEM FOR NGT™ WITH 2 M RS232 CABLE

PRODUCT	PART NO.	DESCRIPTION
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MODEM-3012-NGT-2M



3012 HF Data Modem with 2 m RS232 Cable

This configuration consists of a 3012 HF Data Modem, 2 m Data Interface Cable, and 1 m NGT™ Junction Box to 3012 Modem Cable.

NOTE:

This configuration replaces previous part number 08-05877-001.

COMPATIBILITY:

- With NGT™ SRx, SR, ASR, AR Transceivers

COMPRISING:

- 3012 HF Data Modem
- Earth Wire, 0.5 m
- Self Adhesive Rubber Feet (x4)
- 3012 HF Data Modem User Guide on CDROM (English)

- 08-05877-004
- 08-04515-001
- 30-11208-000
- 15-04104-CD
- 08-05086-001



Data Interface Cable, 2 m



- 08-05712-001

NGT™ to 3012 Modem Cable, 1 m

**3012 HF DATA MODEM FOR NGT™ WITH
6 M RS232 CABLE**



PRODUCT	PART NO.	DESCRIPTION
	<p>MODEM-3012-NGT-6M</p>	<p>3012 HF Data Modem with 6 m RS232 Cable</p> <p>This configuration consists of a 3012 HF Data Modem, 6 m Data Interface Cable, and 1 m NGT™ Junction Box to 3012 Modem Cable.</p> <p>NOTE: This configuration replaces previous part number 08-05877-002.</p> <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • With NGT™ <i>SRx</i>, <i>SR</i>, <i>ASR</i>, <i>AR</i> Transceivers <p>COMPRISING:</p> <ul style="list-style-type: none"> • 3012 HF Data Modem • Earth Wire, 0.5 m • Self Adhesive Rubber Feet (x4) • 3012 HF Data Modem User Guide on CDROM (English)
	<p>08-05877-004 08-04515-001 30-11208-000 15-04104-CD 08-05086-006</p>	<p>Data Interface Cable, 6 m</p>
	<p>08-05712-001</p>	<p>NGT™ to 3012 Modem Cable, 1 m</p>

3012 ACCESSORIES

PRODUCT	PART NO.	DESCRIPTION
	15-00136	Cradle, HF Data Modem Vehicle Mounting
	78-01031	Adaptor, USB to DB-9, Serial USB V1.1 compliant and supports Microsoft Windows™ 2000/XP/Vista/WIN7.
	60-00098-590	Adaptor, 9-pin D Plug to 25-pin D Socket
	08-05086-001	Cable, Data Interface, 2 m
	08-05086-006	Cable, Data Interface, 6 m
	08-05712-001	Cable, NGT™ to 3012 Modem, 1 m
	08-05712-006	Cable, NGT™ to 3012 Modem, 6 m
	15-04104-##	User Guide, HF Data Modem 3012 Printed User Guide for the 3012 HF Data Modem. See page 165, <i>Language Support</i> for translations of this guide.
	08-05980-001	UUPlus™ Email for HF Client Software Single user access to UUPlus™ Email for HF Server Software. For use with the 3012 and 3212 HF Data Modems and embedded 2400 bit/s data mode option offered with Envoy X2 Transceivers.
	08-05981-001	UUPlus™ Email for HF Server Software Email server with support for up to 25 remote or local users and Internet email access. For use with the 3012 and 3212 HF Modems and embedded 2400 bit/s data mode option offered with Envoy X2 Transceivers.

3212 HF DATA MODEM (NO CABLES)



PRODUCT	PART NO.	DESCRIPTION
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MODEM-3212-NC

3212 HF Data Modem (No Cables)



The 3212 HF Data Modem provides reliable and cost-effective computer text and data communication capabilities for organisations operating in remote areas with little or no telecommunications infrastructure.

The 3212 HF Data Modem uses waveforms derived from Military Standard (MIL-STD) waveforms, which are based on STANAG 4539 and modified to provide optimal performance over commercial channel bandwidths.

COMPATIBILITY:

- With NGT™ SRx, SR, ASR, AR and Envoy™ X2 Transceivers

COMPRISING:

- 3212 HF Data Modem
- Earth Wire, 0.5 m
- Self Adhesive Rubber Feet (x4)
- 3212 HF Data Modem User Guide on CDROM (English)

STANDARD FEATURES:

- Up to 7200 bit/s error free on-air data rate without compression
- Backwards compatible with Codan 3012 HF Data Modem
- Designed to operate on standard bandwidth commercial HF channels
- In-built DC isolation on all available ports
- Modem control via RS232 or ethernet port

SYSTEM REQUIREMENTS:

The following Options are required for operation with the 3212 HF Data Modem:

- 15-10541-000 Opt High Speed Data (Factory Fit) (NGT™)
- 15-10469-000 Opt Fan (Factory Fit) (NGT™ & Envoy X2™)

NOTE:

2.7 kHz Filter is *not* required for the 3212 HF Data Modem.

AVAILABLE OPTIONS:

- Support for UUPlus™ *Email for HF* Client or Server software, see page 61, UUPlus™ Software.

- 08-06274-001
- 08-04515-001
- 30-11208-000
- 15-04146-CD

3212 HF DATA MODEM FOR NGT™/ENVOY X2 WITH 2 M RS232 CABLE



PRODUCT	PART NO.	DESCRIPTION
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MODEM-3212-NGT-2M

3212 HF Data Modem with 2 m RS232 Cable



This configuration consists of a 3212 HF Data Modem, 2 m Serial Cable, and 1 m Transceiver to 3212 Modem Cable.

The 3212 HF Data Modem uses waveforms derived from Military Standard (MIL-STD) waveforms, which are based on STANAG 4539 and modified to provide optimal performance over commercial channel bandwidths.

See page 71, *3212 System Requirements* for the NGT™/ Envoy X2 Transceiver Options that are required for operation with the 3212 HF Data Modem.

COMPATIBILITY:

- With NGT™ SRx, SR, ASR, AR and Envoy™ X2 Transceivers

COMPRISING:

- 3212 HF Data Modem
- Earth Wire, 0.5 m
- Self Adhesive Rubber Feet (x4)
- 3212 HF Data Modem User Guide on CDROM (English)

08-06274-001
08-04515-001
30-11208-000
15-04146-CD

Serial D9M-D9F Isol Shield Cable, 2 m



08-06359-002

NGT™/Envoy™ X2 to 3212 Modem Cable, 1 m



08-06356-001

3212 HF DATA MODEM FOR NGT™/ENVOY™ X2 WITH 6 M RS232 CABLE



PRODUCT	PART NO.	DESCRIPTION
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MODEM-3212-NGT-6M



3212 HF Data Modem with 6 m RS232 Cable

This configuration consists of a 3212 HF Data Modem, 6 m Serial Cable, and 1 m NGT™/Envoy™ X2 to 3212 Modem Cable.

The 3212 HF Data Modem uses waveforms derived from Military Standard (MIL-STD) waveforms, which are based on STANAG 4539 and modified to provide optimal performance over commercial channel bandwidths.

See page 71, *3212 System Requirements* for the NGT™/Envoy™ X2 Transceiver Options that are required for operation with the 3212 HF Data Modem.

COMPATIBILITY:

- With NGT™ SRx, SR, ASR, AR and Envoy™ X2 Transceivers

COMPRISING:

- 3212 HF Data Modem
- Earth Wire, 0.5 m
- Self Adhesive Rubber Feet (x4)
- 3212 HF Data Modem User Guide on CDROM (English)

08-06274-001

08-04515-001

30-11208-000

15-04146-CD

08-06359-006



Serial D9M-D9F Isol Shield Cable, 6 m

08-06356-006

NGT™/Envoy™ X2 to 3212 Modem Cable, 6 m



3212 ACCESSORIES



PRODUCT	PART NO.	DESCRIPTION
	15-00136	Cradle, HF Data Modem Vehicle Mounting
	78-01031	Adaptor, USB to DB-9, Serial USB V1.1 compliant and supports Microsoft Windows™ 2000/XP/Vista/WIN7.
	60-00098-590	Adaptor, 9-pin D Plug to 25-pin D Socket
	39-79150-080	Ferrite Bead Clamp
	08-06359-002	Cable, Serial D9M-D9F Isol Shield, 2 m
	08-06359-006	Cable, Serial D9M-D9F Isol Shield, 6 m
	67-90800	Cable, Ethernet Crossover CAT-5E, 2 m Red
	67-90801	Cable, Ethernet Crossover CAT-5E, 10 m Red
	67-90802	Cable, Ethernet Straight CAT-5E, 2 m Blue
	67-90803	Cable, Ethernet Straight CAT-5E, 10 m Blue
	08-06356-001	Cable, NGT™/Envoy™ X2 to 3212 Modem, 1 m
	08-06356-006	Cable, NGT™/Envoy™ X2 to 3212 Modem, 6 m
	15-04146-EN	User Guide, 3212 HF Data Modem (English) Printed User Guide for the 3212 HF Data Modem.

3061 500 W POWER AMPLIFIER



PRODUCT	PART NO.	DESCRIPTION
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HIGH-PWR-500



3061 500 W Power Amplifier

A reliable and affordable high power solution for voice and data communication.

COMPATIBILITY:

- With NGT™ SRx, SR, ASR, AR and Envoy™ series Transceivers

COMPRISING:

- 3061 500 W Power Amplifier
- 3061 500 W Power Supply Unit
- Opt External ALC (Retro Fit) (*only required for NGT™*)
- Earth Braid, 1.5 m
- Coaxial Assembly Cable, 2 m
- High Power Amplifier Controller Cable
- High Power Amplifiers 3061/3062 Reference Manual (see page 165, *Language Support* for translations of this guide)
- Power IEC Cable, 2 m (for cable options, see page 76, *3061 Accessories*)

NOTE:

- Specify the mains cable (AU, EU, UK or US) at the time of ordering the 3061 Power Amplifier and Power Supply Unit.
- The 3061 Power Amplifier is suitable for use with NGT™ SRx, SR, ASR, AR systems, and Envoy™ series Transceivers.
- Order Option External ALC (Factory Fit), part number 15-10504-000, when purchasing the power amplifier with an NGT™ Transceiver.
- Ensure the antenna used is suitable for 500 W operation.
- The Power Amplifier and Power Supply Unit are each 5RU in height and will fit a standard 19" wide rack with depth of 400 mm or greater.

STANDARD FEATURES:

- 500 W PEP/300 W average output power
- 100% continuous mode
- 100–270 V AC 50/60 Hz supply voltage
- Fully protected against all load conditions
- Fan forced cooling with thermostatically controlled fans
- 125 W PEP in bypass mode
- 19" rack mount (5RU + 5RU)
- Interface cables for transceiver (coaxial and control cables)

- 08-05974-001
- 08-06067-001
- 15-10504
- 05-06374
- 08-01503-002
- 08-05956-001
- 15-04131-EN

- 67-90308

3061 ACCESSORIES



PRODUCT	PART NO.	DESCRIPTION
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Standard Rack Configurations

Standard rack configurations are 27RU free standing 19" rack cabinets. They are supplied preassembled and fitted with a range of mounting trays and panels to suit the equipment as indicated.

Radio equipment is packed separately to the rack unit to prevent damage in transit.

For rack options, see pages 125 and 126, *Standard Rack Configurations*.

NOTE:

This is a typical high power rack configuration. For illustrative purposes only.



67-90305

Cable, 3C Blk Mld IEC AUS, 2 m



67-90306

Cable, 3C Blk Mld IEC UK, 2 m



67-90307

Cable, 3C Blk Mld IEC US, 2 m



67-90308

Cable, 3C Blk Mld IEC EU, 2 m



08-05920-001

Cable, DC Extension, 1 m

NOTE:

Required for the transceiver when it is rack mounted.



05-06374

Earth Braid, 1.5 m

3062 1 kW POWER AMPLIFIER



PRODUCT	PART NO.	DESCRIPTION
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HIGH-PWR-1000



3062 1 kW Power Amplifier

A reliable and affordable high power solution for voice and data communication.

COMPATIBILITY:

- With NGT™ SRx, SR, ASR, AR and Envoy™ series Transceivers

COMPRISING:

- | | |
|--|---|
| <p>08-05975-001
08-06102-001
15-10504
05-06374
08-01503-002
08-05956-001
15-04131-EN</p> | <ul style="list-style-type: none"> • 3062 1 kW Power Amplifier • 3062 1 kW Power Supply Unit • Opt External ALC (Retro Fit) (<i>only required for NGT™</i>) • Earth Braid, 1.5 m • Coaxial Assembly Cable, 2 m • High Power Amplifier Controller Cable • High Power Amplifiers 3061/3062 Reference Manual (see page 165, <i>Language Support</i> for translations of this guide) • Power IEC 320 Cable, 2 m (for cable options, see page 78, <i>3062 Accessories</i>) |
|--|---|

67-90309

NOTE:

- Specify the mains cable (AU, EU, UK or US) at the time of ordering the 3062 Power Amplifier and Power Supply Unit.
- The 3061 Power Amplifier is suitable for use with NGT™ SRx, SR, ASR, AR systems, and Envoy™ series Transceivers.
- Order Option External ALC (Factory Fit), part number 15-10504-000, when purchasing the power amplifier with an NGT™ Transceiver.
- Ensure the antenna used is suitable for 1 kW operation.
- The Power Amplifier and Power Supply Unit are each 5RU in height and will fit a standard 19" wide rack with depth of 400 mm or greater.

STANDARD FEATURES:

- 1 kW PEP/600 W average output power
- 100% continuous mode
- 100–270 V AC 50/60 Hz supply voltage
- Fully protected against all load conditions
- Fan forced cooling with thermostatically controlled fans
- 125 W PEP in bypass mode
- 19" rack mount (5RU + 5RU)
- Interface cables for transceiver (coaxial and control cables)

3062 ACCESSORIES



PRODUCT	PART NO.	DESCRIPTION
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Standard Rack Configurations

Standard rack configurations are 27RU free standing 19" rack cabinets. They are supplied preassembled and fitted with a range of mounting trays and panels to suit the equipment as indicated.

Radio equipment is packed separately to the rack unit to prevent damage in transit.

For rack options, see pages 125 and 126, *Standard Rack Configurations*.

NOTE:
This is a typical high power rack configuration. For illustrative purposes only.



67-90309

Cable, 3C Blk Mld IEC 320-UK, 2 m

NOTE:

This is the only mains cable available for use with the 3062 1 kW Power Amplifier. If required for use in countries other than the UK, the cable will need to be reterminated accordingly.



08-05920-001

Cable, DC Extension, 1 m

NOTE:

Required for the transceiver when it is rack mounted.



05-06374

Earth Braid, 1.5 m

CROSSPATCH™ FOR NGT™/ENVOY™



PRODUCT	PART NO.	DESCRIPTION
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XPATCH-NGT



3031 Crosspatch™

Codan's leading edge 3031 Crosspatch™ enables you to carry 'HF on your belt' using a VHF/UHF radio and a Codan NGT™/Envoy™ Transceiver. It is the practical, effective and affordable solution for any organisation that needs to extend their current HF or VHF/UHF networks.

COMPATIBILITY:

- With NGT™ SRx, SR, ASR, AR and Envoy™ X2 Transceivers

COMPRISING:

- 3031 VHF/UHF to HF Crosspatch™ for NGT™/Envoy™
- 3031 to VHF/UHF Transceiver Generic Cable, 2 m
- Crosspatch™ 3031 CD Package (English)
- Crosspatch™ 3031 Quick Reference Cards, English (x2)
- Crosspatch™ 3031 Installation Kit

- 08-06730-001
- 08-06766-001
- 15-04148-CD
- 06-02489-EN
- 15-00145

CROSSPATCH™ ACCESSORIES



PRODUCT	PART NO.	DESCRIPTION
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08-06766-001

Cable, 3031 to VHF/UHF Transceiver Generic



06-02489-EN

Quick Reference Card, Crosspatch™ 3031



15-04148-EN

User Guide, Crosspatch™ 3031 (English)
Printed User Guide for the 3031 Crosspatch™.

3033 TELEPHONE INTERCONNECT



PRODUCT	PART NO.	DESCRIPTION
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RTI-3033-NGT

3033 Telephone Interconnect



Codan's telephone interconnect equipment can link into the telephone system enabling you to make or receive telephone calls on your HF transceiver.

Comes with all cables and Reference Manual.

COMPATIBILITY:

- With NGT™ SRx, SR, ASR, AR and Envoy™ X2 Transceivers

COMPRISING:

- 3033 Telephone Interconnect
- 3033 to Transceiver Interface Cable
- 3033 to 3020 Power Supply Cable
- 3033 Telephone Interconnect User Guide on CD (English)

- 08-06797-001
- 08-06820-001
- 08-06819-001
- 15-04156-CD

STANDARD FEATURES:








- Fully automated and intuitive operation
- Multilingual voice prompts
- Flexible configuration and remote management
- Worldwide compliance (Telephone and EMC)
- Radio user can access public telephone network
- Telephone users can contact radio users
- Designed for extreme conditions

ADDITIONAL FEATURES AVAILABLE THROUGH ATTACHED NGT™ TRANSCEIVER:

- Choice of pre-programmed telephone numbers or free dialling
- Accessible for user with only selective calling capability (non-telcall users)
- Access control to restrict access to individual users, groups of users, and the number of digits that can be dialled


3033 ACCESSORIES



PRODUCT	PART NO.	DESCRIPTION
	08-04146-001	Cable, 6-way Phone
	08-04515-001	Earth Wire, 0.5 m
	67-90800	Cable, Ethernet Crossover CAT-5E, 2 m Red
	67-90801	Cable, Ethernet Crossover CAT-5E, 10 m Red
	67-90802	Cable, Ethernet Straight CAT-5E, 2 m Blue
	67-90803	Cable, Ethernet Straight CAT-5E, 10 m Blue
	15-04156-EN	User Guide, 3033 Telephone Interconnect (English) Printed User Guide for the 3033 Telephone Interconnect.


GPS TRACKING SOFTWARE



PRODUCT	PART NO.	DESCRIPTION
	78-07003-990	InterNav-CHF GPS Tracking Software
	78-07003-010	The InterNav-CHF GPS Tracking Software is a computerised map positioning system for up to 100 users. It requires a Windows™ 2000/XP/Vista/WIN7 operating system.
	78-07003-025	Includes: software, user manual and hardware security dongle
	78-07003-050	NOTE: Interface cable must be ordered separately.
	78-07003-100	COMPATIBILITY: • With NGT™ SRx, SR, ASR, AR and Envoy™ series Transceivers
		<ul style="list-style-type: none"> InterNav-CHF™ GPS Tracking Software – 1 User (Dealer) InterNav-CHF™ GPS Tracking Software – 10 User InterNav-CHF™ GPS Tracking Software – 25 User InterNav-CHF™ GPS Tracking Software – 50 User InterNav-CHF™ GPS Tracking Software – 100 User
	78-07004	<p>Setup</p> <p>Three day on-site installation, commissioning and training visit by a Codan engineer.</p> <p>GPS, Map scanning per A4 page</p> <p>Includes: Scanning and registration of maps, chart purchase and copyright fee</p> <p>SPECIFY:</p> <ul style="list-style-type: none"> Geographic areas to be mapped Scale(s) required

GPS ACCESSORIES






PRODUCT	PART NO.	DESCRIPTION
	08-05086-001	<p>Cable, Data Interface, 2 m</p> <p>Interface cable for computer control via CICS or GPS Tracking software, and NGT™ Transceivers that have a junction box.</p> <p>Cable connects to 9 pin serial port on NGT™ Junction Box.</p> <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> With NGT™ SR, ASR, AR and Envoy™ series Transceivers
	08-06380-001	<p>Cable, Serial 6-way to D9F</p> <p>Interface cable for computer control via CICS or GPS Tracking software and security key programming using KMS/KFS on the NGT™ SRx and Envoy™ series Transceivers.</p> <p>Cable connects to 6-pin serial port on NGT™/Envoy™ RF Unit.</p> <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> With NGT™ SRx, AR Voice and Envoy™ series Transceivers

3020 TRANSCEIVER SUPPLY



PRODUCT	PART NO.	DESCRIPTION
	78-20022	<p>3020 Transceiver Supply</p> <p>Designed for environments with unreliable and fluctuating mains systems. Suitable for use with either voice or data stations.</p> <p>Nominal input: 100 to 240 V AC $\pm 10\%$ (50/60 Hz) Nominal output: 13.8 V DC, 16 A continuous, 20 A peak Mains connection: IEC socket on rear of unit</p> <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • With ALL NGT™ and Envoy™ series Transceivers
	67-90305	Cable, 3C Blk Mld IEC AUS, 2 m
	67-90306	Cable, 3C Blk Mld IEC UK, 2 m
	67-90307	Cable, 3C Blk Mld IEC US, 2 m
	67-90308	Cable, 3C Blk Mld IEC EU, 2 m

3020 ACCESSORIES		NGT TRANSCEIVER SERIES	envoy SMART RADIO SERIES
PRODUCT	PART NO.	DESCRIPTION	
	15-00702	Cable Kit for Float Charge Cable kit for float charging lead-acid storage battery for uninterrupted supply.	
	15-00175	3RU Rack-mounting Frame for 3020 NOTE: For additional racking accessories, see page 125, <i>19" Racks & Accessories</i> .	

DC-DC VOLTAGE CONVERTER		NGT TRANSCEIVER SERIES	envoy SMART RADIO SERIES
PRODUCT	PART NO.	DESCRIPTION	
	15-00508	Voltage Regulator (24 V to 12 V operation 20 A) Enables the operation of NGT™ and Envoy™ series Transceivers in 24 V based systems. Protected from faults such as voltage spikes, overload, short circuits and low voltage input. The unit automatically resets once a fault is detected. Nominal Input: 24 V DC Nominal Output: 12 V @20 A Efficiency: Greater than 90% at full load	



SOLAR POWER SUPPLIES






PRODUCT	PART NO.	DESCRIPTION
	15-00531	<p>Solar Power Supply 40 W</p> <p>Recommended for voice (light duty).</p> <p>COMPRISING:</p> <ul style="list-style-type: none"> • Single 40 W solar panel • Mounting frame complete with anti-bird spikes • Solar battery regulator • Heavy duty twin core cable • Battery lugs
	15-00532	<p>Solar Power Supply 80 W</p> <p>Recommended for voice (heavy duty).</p> <p>COMPRISING:</p> <ul style="list-style-type: none"> • Single 80 W solar panel • Mounting frame complete with anti-bird spikes • Solar battery regulator • Heavy duty twin core cable • Battery lugs
	15-00533	<p>Solar Power Supply 240 W</p> <p>Recommended for fax and data (heavy duty).</p> <p>COMPRISING:</p> <ul style="list-style-type: none"> • Three 80 W solar panels • Mounting frame complete with anti-bird spikes • Solar battery regulator • Heavy duty twin core cable • Battery lugs

SOLAR POWER SUPPLY ACCESSORIES



PRODUCT	PART NO.	DESCRIPTION
	08-05399-001	Cable, Battery Paralleling (+ve)
	08-05399-002	Cable, Battery Paralleling (-ve)



BATTERIES		
PRODUCT	PART NO.	DESCRIPTION
	65-72000-012	<p>Battery, Lead acid 12 V 90Ah (supplied dry charged)</p> <p>NOTE: This battery is classified as dangerous goods and requires a special permit to air freight.</p>
	65-72003	<p>Battery, 12 V 100Ah Gelcell</p> <p>NOTE: This battery can be air freighted without a permit.</p>
	65-72004	<p>Battery, 12 V 185Ah Gelcell</p> <p>NOTE: This battery can be air freighted without a permit.</p>

3040 AUTOMATIC TUNING WHIP

PRODUCT	PART NO.	DESCRIPTION
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ANT-3040-NC



3040 Automatic Tuning Whip (No Cables)

The 3040 Automatic Whip Antenna is a low profile, rugged, lightweight unit designed for mobile installations. It provides fast automated tuning across the HF band.

The 3040 is easy to install and meets MIL-STD-810F for shock, immersion, dust and vibration.

COMPATIBILITY:

- With ALL NGT™ and Envoy™ series Transceivers

COMPRISING:

- 3040 Main Assembly
- 3040 Spring
- Riser, Fibreglass
- 3040 Fibreglass Whip, 1.6 m
- 3040 Stainless Steel Whip, 1.65 m
- 3040 Automatic Whip Antenna Installation Handbook, c/w antenna connector sealing kit

STANDARD FEATURES:

- 2.5 to 30 MHz
- 125W PEP voice or data
- Fast tuning typically < 1sec
- Tune from memory

AVAILABLE ACCESSORIES:

See page 89, *3040 Accessories* for cables and other parts used with the 3040.

- 08-07007-001
- 08-07148-001
- 78-18058
- 78-23085
- 78-23086
- 15-60012

**3040 AUTOMATIC TUNING WHIP WITH
6 M CABLES**



PRODUCT	PART NO.	DESCRIPTION
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ANT-3040-6M



3040 Automatic Tuning Whip with 6 m Cables

The 3040 Automatic Whip Antenna is a low profile, rugged, lightweight unit designed for mobile installations. It provides fast automated tuning across the HF band.

The 3040 is easy to install and meets MIL-STD-810F for shock, immersion, dust and vibration.

NOTE:

Supplied with 6 m cables to connect the 3040 Antenna to an NGT™/Envoy™ Transceiver. See page 89, *3040 Accessories* for additional 3040 accessories.

COMPATIBILITY:

- With ALL NGT™ and Envoy™ series Transceivers

COMPRISING:

- 3040 Main Assembly
- Control NGT™/Envoy™ to 9350/304X Cable, 6 m
- Coax Assembly Cable, UHF Type Connectors, RG58, 6 m
- 3040 Spring
- Riser, Fibreglass
- 3040 Fibreglass Whip, 1.6 m
- 3040 Stainless Steel Whip, 1.65 m
- 3040 Automatic Whip Antenna Installation Handbook, c/w antenna connector sealing kit








STANDARD FEATURES:

- 2.5 to 30 MHz
- 125 W PEP voice or data
- Fast tuning typically < 1sec
- Tune from memory

AVAILABLE ACCESSORIES:

See page 89, *3040 Accessories* for cables and other parts used with the 3040.

- 08-07007-001
- 08-05627-006
- 08-01503-006
- 08-07148-001
- 78-18058
- 78-23085
- 78-23086
- 15-60012

3040 ACCESSORIES		
PRODUCT	PART NO.	DESCRIPTION
	08-07148-001	3040 Spring Flexible mounting for whip antennas. The spring is highly recommended when using the fibreglass whip and/or riser.
	78-23086	3040 Stainless Steel Whip A stainless steel whip offered as a more flexible and less visually obstructive alternative to the fibreglass version. The whip is 1.65 m in length.
	78-23085	3040 Fibreglass Whip This is a 1.6 m fibreglass whip and is recommended to be used with the spring and the riser section. In this configuration the antenna will operate over a transmit frequency range of 2.5 to 30 MHz.
	78-18058	Riser, Fibreglass A 0.8 m fibreglass section used to extend the overall length of the antenna element when using the 1.6 m fibreglass or stainless steel whips to achieve maximum possible frequency range (2.5 to 30 MHz) and radiation performance.
	78-14010	3040/3042 NVIS Antenna Kit Suits the 3040 Automatic Tuning Whip Antenna/3042 Antenna Tuner for improved short range (0 to 500 km) near vertical incidence skywave communications mode over frequency range 2 to 12 MHz. Includes: 2 section lightweight NVIS whip antenna sections, tie down cord kit, instruction card and canvas storage bag.
	08-05627-002	Cable, Control NGT/Envoy to 9350/304X, 2m
	08-05627-006	Cable, Control NGT/Envoy to 9350/304X, 6 m
	08-05627-010	Cable, Control NGT/Envoy to 9350/304X, 10 m
	08-05627-020	Cable, Control NGT/Envoy to 9350/304X, 20 m
	08-01503-006	Cable, Coax Assembly, UHF Type Connectors, RG58, 6 m
	08-01503-008	Cable, Coax Assembly, UHF Type Connectors, RG58, 8 m
	08-01503-020	Cable, Coax Assembly, UHF Type Connectors, RG58, 20 m
	08-01503-030	Cable, Coax Assembly, UHF Type Connectors, RG58, 30 m

9350 AUTOMATIC TUNING WHIP



PRODUCT	PART NO.	DESCRIPTION
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ANT-9350-NC



9350 Automatic Tuning Whip (No Cables)

A robust antenna designed for mobile installations requiring flexible, high performance HF communications. It provides fast automated tuning over the entire HF frequency range.

The 9350 is easy to install, and meets MIL-STD-810F for shock and vibration.

COMPATIBILITY:

- With ALL NGT™ and Envoy™ series Transceivers

COMPRISING:

- 08-05063-001
- 08-05140-001
- 78-23007-003
- 78-23025
- 15-04142-##

- 9350 Main Assembly
- 9350 Spring
- 9350 Fibreglass Whip, 1.6 m
- 9350 Tapered Stainless Steel Whip, 1.2 m
- Automatic Tuning Whip Antenna 9350 Installation Handbook (see page 165, *Language Support* for translations of this handbook)

STANDARD FEATURES:

- 125 W PEP voice or data
- Tuning time typically 2 seconds
- Transmit frequency range 2 to 30 MHz depending on antenna
- Receive frequency range 250 kHz to 30 MHz

AVAILABLE ACCESSORIES:

See page 92, *9350 Accessories* for cables to connect the 9350 Antenna to an NGT™ or Envoy™ Transceiver.

denotes language version

**9350 AUTOMATIC TUNING WHIP WITH
6 M CABLES**



PRODUCT	PART NO.	DESCRIPTION
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ANT-9350-6M



9350 Automatic Tuning Whip with 6 m Cables

A robust antenna designed for mobile installations requiring flexible, high performance HF communications. It provides fast automated tuning over the HF range.

The 9350 is easy to install, and meets MIL-STD-810F for shock and vibration.

NOTE:

Supplied with 6 m cables to connect the 9350 Antenna to an NGT™/Envoy™ Transceiver, see page 92 for additional 9350 accessories.

COMPATIBILITY:

- With ALL NGT™ and Envoy™ series Transceivers

COMPRISING:






- 9350 Main Assembly
- Control NGT™/Envoy™ to 9350/304X Cable, 6 m
- Coax Assembly Cable, UHF Type Connectors, RG58, 6 m
- 9350 Spring
- 9350 Fibreglass Whip, 1.6 m
- 9350 Tapered Stainless Steel Whip, 1.2 m
- Automatic Tuning Whip Antenna 9350 Installation Handbook (see page 165, *Language Support* for translations of this handbook)

STANDARD FEATURES:

- 125 W PEP voice or data
- Tuning typically 2 seconds
- Transmit frequency range 2 to 30 MHz depending on antenna
- Receive frequency range 250 kHz to 30 MHz

- 08-05063-001
- 08-05627-006
- 08-01503-006
- 08-05140-001
- 78-23007-003
- 78-23025
- 15-04142-##

denotes language version

9350 ACCESSORIES		
PRODUCT	PART NO.	DESCRIPTION
	08-05140-001	9350 Spring Strain relief for 9350 Fibreglass Whip.
	78-23007-003	9350 Fibreglass Whip, 1.6 m This is the primary whip normally supplied with the 9350. It is a copper wire encased in a polyurethane covered fibreglass rod. The whip is designed to withstand substantial flexing and rugged conditions. It operates over the transmit frequency range of 2 to 30 MHz. NOTE: Must be used with the spring (part number 08-05140-001).
	78-23056	9350 Tapered Stainless Steel Whip, 1.65 m This whip enables use over the transmit frequency range of 2 to 30 MHz and provides a more flexible and less visible alternative to the fibreglass whip. NOTE: Can be used without the spring (part number 08-05140-001).
	78-23025	9350 Tapered Stainless Steel Whip, 1.2 m This whip is designed as an emergency backup to the primary whip (part number 78-23007-003) in case of damage. It is only suitable for operation over a transmit frequency range of 2.5 to 30 MHz and is less efficient than the primary whip. NOTE: Can be used without the spring (part number 08-05140-001).
	15-00323	NVIS Antenna Kit Suits the 9350 Automatic Tuning Whip Antenna for improved short range (0 to 500 km) near vertical incidence skywave (NVIS) communications over frequency range 2 to 12 MHz. Includes: two piece whip antenna, angle adaptor, extension riser, tie down cord kit and fitting instructions in a canvas bag
	08-05627-006	Cable, Control NGT/Envoy to 9350/304X, 6 m
	08-05627-008	Cable, Control NGT/Envoy to 9350/304X, 8 m
	08-05627-030	Cable, Control NGT/Envoy to 9350/304X, 30 m
	08-01503-006	Cable, Coax Assembly, UHF Type Connectors, RG58, 6 m
	08-01503-008	Cable, Coax Assembly, UHF Type Connectors, RG58, 8 m
	08-01503-020	Cable, Coax Assembly, UHF Type Connectors, RG58, 20 m
	08-01503-030	Cable, Coax Assembly, UHF Type Connectors, RG58, 30 m

3042 HF ANTENNA TUNER

NGT
TRANSCEIVER SERIES

envoy
SMART RADIO SYSTEMS

PRODUCT	PART NO.	DESCRIPTION
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ANT-3042-NC

3042 HF Antenna Tuner (No Cables)



The 3042 is a low profile, 125 W HF antenna tuning unit designed to deliver high performance and reliability in the world's harshest environments. It provides high speed and efficient tuning of short whip antennas across the full operational HF band.

COMPATIBILITY:

- With ALL NGT™ and Envoy™ series Transceivers

COMPRISING:

- 3042 HF Antenna Tuner
- Installation Kit
- 3042 Automatic Antenna Tuner Installation Handbook

08-07154-001
15-00146
15-04174-EN

STANDARD FEATURES:

- 2 to 30 MHz
- 125 W RF power handling
- Fast tuning typically < 1sec
- High efficiency
- Waterproof
- MIL-STD-810G Environmentals
- N-type RF Connector
- Used with Vertical & NVIS Whip Antennas
- Flexible mounting
- ALE compatible
- Internal receive mode amplifier

AVAILABLE ACCESSORIES:

See page 95, *3042 Accessories* for cables and other parts used with the 3042.

3042 HF ANTENNA TUNER WITH 6 M CABLES



PRODUCT	PART NO.	DESCRIPTION
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ANT-3042-6M



3042 HF Antenna Tuner with 6 m Cables

The 3042 is a low profile, 125 W HF antenna tuning unit designed to deliver high performance and reliability in the world's harshest environments. It provides high speed and efficient tuning of short whip antennas across the full operational HF band.

NOTE:

Supplied with 6 m cables to connect the tuner to the antenna.

COMPATIBILITY:

- With ALL NGT™ and Envoy™ series Transceivers

COMPRISING:

- 3042 HF Antenna Tuner
- Control NGT™/Envoy™ to 9350/304X Cable, 6 m
- Coax Assembly Cable with UHF to N-type Connectors, RG58, 6 m
- Installation Kit
- 3042 Automatic Antenna Tuner Installation Handbook

08-07154-001
08-05627-006
08-05837-006

15-00146
15-04174-EN

STANDARD FEATURES:

- 2 to 30 MHz
- 125 W RF power handling
- Fast tuning typically < 1sec
- High efficiency
- Waterproof
- MIL-STD-810G Environmentals
- N-type RF Connector
- Used with Vertical & NVIS Whip Antennas
- Flexible mounting
- ALE compatible
- Internal receive mode amplifier

AVAILABLE ACCESSORIES:

See page 95, *3042 Accessories* for cables and other parts used with the 3042.







3042 ACCESSORIES

PRODUCT	PART NO.	DESCRIPTION
	15-60020	Single Hole Mount Base The single hole mount antenna base is designed for lighter duty installations, and provides the convenience of a small footprint requiring only a single 14 mm mounting hole.
	15-60021	Flange Mount Base The flange mount antenna base is designed to provide a sturdy antenna mount for installations requiring the high voltage feed line to pass through a vehicle panel. Flange mount includes rubber gasket and mounting hardware.
	15-60022	Flange Mount Bracket The flange mount bracket provides external side mounting of the flange mount antenna base. Mounting fasteners must be provided separately.
	08-07148-001	3042 Spring Flexible mounting for whip antennas. The spring is highly recommended when using the fibreglass whip and/or riser.
	15-60023	3042 Shock Mount The shock mount for the 3042 Antenna Tuner is recommended for installations likely to experience extreme levels of vibration or shock. The mount features quick fit/release fasteners that require no tools to use. Fitting instructions are supplied, and an installation kit that will suit most applications.
	78-23086	3042 Stainless Steel Whip A stainless steel whip offered as a more flexible and less visually obstructive alternative to the fibreglass version. The whip is 1.65 m in length.
	78-23085	3042 Fibreglass Whip This is a 1.6 m fibreglass whip and is recommended to be used with the spring and the riser section. In this configuration the antenna will operate over a transmit frequency range of 2.5 to 30 MHz.
	78-18058	Riser, Fibreglass A 0.8 m fibreglass section used to extend the overall length of the antenna element when using the 1.6 m fibreglass or stainless steel whips to achieve maximum possible frequency range (2 to 30 MHz) and radiation performance.

Continued on the next page



3042 ACCESSORIES CONT.



PRODUCT	PART NO.	DESCRIPTION
	15-00146	Installation Kit Kit containing a selection of fasteners for mounting the 3042 Antenna Tuner.
	78-14010	3040/3042 NVIS Antenna Kit Suits the 3040 Automatic Tuning Whip Antenna/3042 Antenna Tuner for improved short range (0 to 500 km) near vertical incidence skywave communications mode over frequency range 2 to 12 MHz. Includes: 2 section lightweight NVIS whip antenna sections, tie down cord kit, instruction card and canvas storage bag.
	08-05627-002	Cable, Control NGT/Envoy to 9350/304X, 2m
	08-05627-006	Cable, Control NGT/Envoy to 9350/304X, 6 m
	08-05627-010	Cable, Control NGT/Envoy to 9350/304X, 10 m
	08-05627-020	Cable, Control NGT/Envoy to 9350/304X, 20 m
	08-05837-002	Cable, Coax Assembly, UHF to N-type Connectors, RG58, 2 m
	08-05837-006	Cable, Coax Assembly UHF to N-type Connectors, RG58, 6 m
	08-05837-010	Cable, Coax Assembly UHF to N-type Connectors, RG58, 10 m
	08-05837-020	Cable, Coax Assembly UHF to N-type Connectors, RG58, 20 m




TUNERS




PRODUCT	PART NO.	DESCRIPTION
	08-04835-013	<p>Tuner, 9103 Automatic Antenna with 10 m Cables Designed to suit NGT™/Envoy™ Transceivers. Rated to 150 W PEP voice or data.</p> <p>Includes: mounting bracket, control cable (10 m) to suit NGT™ Transceiver, coaxial cable (10 m) and installation/operation handbook</p>
	08-04835-015	<p>Tuner, 9103 Automatic Antenna with 30 m Cables Designed to suit NGT™/Envoy™ series Transceivers. Rated to 150 W PEP voice or data.</p> <p>Includes: mounting bracket, control cable (30 m) to suit NGT™ Transceiver, coaxial cable (30 m) and installation/operation handbook</p>
	08-06739-001	<p>Tuner, SG235C 500 W PEP Designed to suit 500 W high power NGT™/Envoy™ systems.</p> <p>Includes: mounting bracket and installation/operation handbook</p> <p>NOTE:</p> <ul style="list-style-type: none"> • Maximum power input in data mode 300 W average. • Control and coaxial cables are <i>not</i> supplied. For the control cable, see <i>Tuner Accessories</i> below. For coaxial cables, see page 109, <i>Coaxial Cables</i>.

TUNER ACCESSORIES



PRODUCT	PART NO.	DESCRIPTION
	30-37601-002	<p>Copper Earth Strip 50 mm x 0.46 mm (26 gauge) supplied in units of 1 m</p>
	08-06740-030	<p>Cable, SG235C Control, 30 m</p>
	08-01503-030	<p>Cable SG235C Coax Assembly, UHF type connectors, RG58, 30 m</p> <p>NOTE: For coaxial cables, see page 109, <i>Coaxial Cables</i>.</p>

BASE WHIP		NGT TRANSCEIVER SERIES	envoy SMART RADIO SERIES
PRODUCT	PART NO.	DESCRIPTION	
		<p>The Base Whip Antenna is 9.5 m (31 ft) in height, and requires an automatic antenna tuner. It is mounted vertically on a suitable ground plane or metal roof. An earth mat may be required where a suitable ground plane cannot be found.</p> <p>This antenna may be used where space is restricted and omnidirectional coverage is required.</p> <p>Antenna rated to 500 W PEP. See page 97, <i>Tuners</i> for available tuner options.</p>	
	15-00406-001	<p>Ant, Base Whip, Ground Mounting (9.5 m/31 ft Unloaded) Comes complete with ground mounting plate, guy kit and guy clamps, guy anchors, HV lead and installation instructions.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • Coaxial cable and tuner are not supplied. • May require radial ground plane for ground installations. • Compatible with 9103 and SG235C Antenna tuners, see page 96 for more details on tuners • Guying details: One guy set with four guy wires. 4 m guy radius. • Guy anchor points not supplied. • Lightning protection is recommended for fixed base station installations, see page 110, <i>Lightning Protection</i>. 	
	15-00406-002	<p>Ant, Base Whip, Roof Mounting (9.5 m/31 ft Unloaded) Comes complete with roof mounting bracket, guy kit and guy clamps, HV lead and installation instructions.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • Coaxial cable and tuner are not supplied. • Compatible with 9103 and SG235C Antenna tuners, see page 96 for more details on tuners • Requires radial ground plane for non-metallic roof installations. • Lightning protection is recommended for fixed base station installations, see page 110, <i>Lightning Protection</i>. • Guying details: One guy set with four guy wires. 4 m guy radius. 	

BASE WHIP ACCESSORIES		NGT TRANSCEIVER SERIES	envoy SMART RADIO SERIES
PRODUCT	PART NO.	DESCRIPTION	
	15-00158	Earth Mat for Base Whip Antenna, Ground Installations	
	15-00159	Radial Ground Plane for Base Whip Antenna, Roof Installations	

TUNED LONG WIRE



PRODUCT	PART NO.	DESCRIPTION
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15-00403

Ant, Tuned Long Wire (2–30 MHz)

This antenna exhibits a good combination of space efficiency and broadband capability. It is designed to be used with an antenna tuner.

A suitable antenna where space is limited. The Long Wire antenna may be deployed in a sloping wire or Inverted-L configuration.

NOTE:

- Compatible with 9103 and SG235C Antenna tuners, see page 96 for more details on tuners.
- Lightning protection is recommended for fixed base station installations, see page 110, *Lightning Protection*.
- When installed as an Inverted-L configuration the minimum recommended height is 6 m.
- When installed as a sloping long wire the minimum height at the high end should be 6 m but can be as high as 15 m

COMPATIBILITY:

- With ALL NGT™ and Envoy™ series Transceivers

3048 TUNED DIPOLE



PRODUCT	PART NO.	DESCRIPTION
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ANT-3048-20M



3048 Tuned Dipole Antenna with 20 m cables

The 3048 Tuned Dipole is an HF antenna solution designed for base station use. When compared to wire broadband antennas the 3048 has a significantly reduced installed footprint, which is a benefit for installations where space is restricted.

The 3048 antenna system comprises a main tuner unit and 4 element antenna assembly mounted on top of a 6 m mast. A control cable and coaxial cable run down from the tuner unit to an interface box mounted at the base of the mast. The interface box provides connection points for the transceiver antenna control and RF cables as well as the RF ground.

NOTE:

- Interface box coaxial connection uses a UHF type RF connector
- 6 m mast uses two guys sets, each with 4 guy wires and guy radius of 4 m
- Maximum recommended control cable length between the interface box and transceiver is 20 m
- Lightning protection is recommended for fixed base station installations, see page 110, *Lightning Protection*.

COMPATIBILITY:

- With ALL NGT™ and Envoy™ series Transceivers


COMPRISING:

- Antenna, Tuned Diopole, 3048
- 3048 Tuned Dipole Installation Handbook
- 6 m guyed mast for 3048 Tuned Dipole
- Coax assembly cable with UHF connectors, RG58, 20 m
- Control NGT/Envoy to 9350/304X Cable, 20 m

FEATURES:

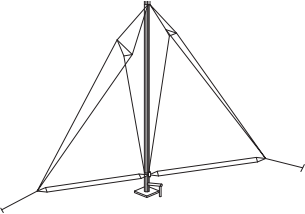
- 2.5-30 MHz
- 125 W power handling (voice and data)
- Fast tune typically <1 sec
- Unlimited memory tune
- High efficiency
- Waterproof
- Designed to MIL-STD-810G
- Internal receive mode amplifier
- Small installed footprint

08-07324-001
15-04185-EN
78-13038
08-01503-020
08-05627-020

TRAVELLING WAVE DIPOLE		
PRODUCT	PART NO.	DESCRIPTION
		<p>The Travelling Wave Dipole Antenna is efficient for short to medium distance communications. Its radiation patterns are generally omni-directional, resulting in a consistent coverage over the frequency range. Designed for 100% duty cycle voice and data operation at the rated power level.</p> <p>This antenna requires a substantial cleared area at ground level for installation, and is more suitable for permanent fixed site installations. Refer to the antenna data sheet for more details.</p> <p>Includes: pulleys, halyards and installation hardware</p> <p>NOTE:</p> <ul style="list-style-type: none"> • Recommended mast for the 53 m antenna variants is the 15-00422-015, 15 m guyed mast. For further information on masts see page 107, <i>Antenna Masts</i>. • Recommended mast for the 40 m variants is the 15-00422-012, 12 m guyed mast • Coaxial cable and masts not supplied. For coaxial cables, see page 109, <i>Coaxial Cables</i>. • Lightning protection is recommended for fixed base station installations, see page 110, <i>Lightning Protection</i>. • Antenna lengths quoted are required mast to mast distances. • Antenna is fitted with UHF type RF connector. <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • With ALL NGT™ and Envoy™ series Transceivers
	78-01248	Ant, Travelling Wave Dipole (2–30 MHz, 125 W PEP), 53 m
	78-01249	Ant, Travelling Wave Dipole (3–30 MHz, 125 W PEP), 40 m
	78-01250	Ant, Travelling Wave Dipole (2–30 MHz, 1000 W PEP), 53 m
78-01251	Ant, Travelling Wave Dipole (3–30 MHz, 1000 W PEP), 40 m	

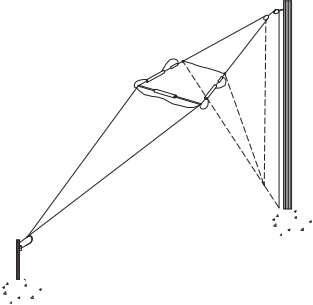
NGT
TRANSCIVER SERIES

envoy
SMART RADIO SERIES

DELTA		
PRODUCT	PART NO.	DESCRIPTION
	<p>78-01022</p> <p>78-01247</p>	<p>The Delta Antenna is a high performance, omni-directional broadband antenna that performs well over very short to medium distances. Designed for 100% duty cycle voice and data operation at the rated power level.</p> <p>This antenna requires a substantial cleared area at ground level for installation, and is more suitable for permanent fixed site installations. Refer to the antenna data sheet for more details.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • Recommended mast is 15-00422-015, 15 m guyed mast. For further information on masts see page 107, <i>Antenna Masts</i>. • Distance between antenna guy anchors is 46 m. • Antenna is fitted with UHF type RF connector. • The Delta Antenna is <i>not</i> recommended for rooftop installations. • Lightning protection is recommended for fixed base station installations, see page 110, <i>Lightning Protection</i>. • Coaxial cable and mast not supplied. For coaxial cables, see page 109, <i>Coaxial Cables</i>. <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • With ALL NGT™ and Envoy™ series Transceivers <p>Ant, Full Delta (3–30 MHz, 125 W)</p> <p>Ant, Full Delta (3 –30 MHz, 1000 W PEP)</p>

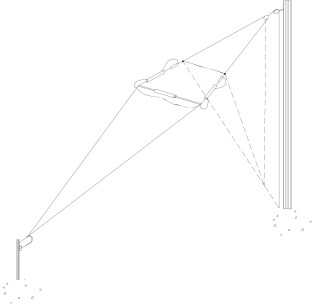
SEMI-DELTA



PRODUCT	PART NO.	DESCRIPTION
		<p>The Semi-delta Antenna is a high performance, omnidirectional broadband antenna that performs well over short to medium distances.</p> <p>This antenna requires a large cleared area at ground level for installation, and is more suitable for permanent fixed site installations.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • Recommended mast is 15-00422-015, 15 m guyed mast however the 15-00422-012 12 m guyed mast may also be used. Using the 12 m mast will increase the required distance between the main mast and stub mast. Recommended stub mast height is 2 m. For further information on masts see page 107, <i>Antenna Masts</i>. • Distance between main mast and stub mast is 20 m with 15 m main mast and 24 m with 12 m main mast. • Antenna is fitted with UHF type RF connector. • An antenna counterpoise/ground is required when mounted on non-metallic roofs or the ground where soil conductivity conditions are very poor. • Lightning protection is recommended for fixed base station installations, see page 110, <i>Lightning Protection</i>. • Coaxial cable and masts not supplied. For coaxial cables, see page 109, <i>Coaxial Cables</i>. <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • With ALL NGT™ and Envoy™ series Transceivers
	78-01012	<p>Ant, Semi-delta (2–14 MHz, 125 W PEP) Includes: pulleys, halyards, basic installation hardware, and installation instructions</p>
	78-01246	<p>Ant, Semi-delta (2–14 MHz, 1000 W PEP) Includes: pulleys, halyards, basic installation hardware, and installation instructions</p>

SEMI-DELTA



PRODUCT	PART NO.	DESCRIPTION
		<p>The Semi-delta Antenna is a high performance, omnidirectional broadband antenna that performs well over short to medium distances.</p> <p>This antenna requires a large cleared area at ground level for installation, and is more suitable for permanent fixed site installations.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • Recommended mast is 15-00422-015, 15 m guyed mast however the 15-00422-012 12 m guyed mast may also be used. Using the 12 m mast will increase the required distance between the main mast and stub mast. Recommended stub mast height is 2 m. For further information on masts see page 107, <i>Antenna Masts</i>. • Distance between main mast and stub mast is 20 m with 15 m main mast and 24 m with 12 m main mast. • Antenna is fitted with UHF type RF connector. • An antenna counterpoise/ground is required when mounted on non-metallic roofs or the ground where soil conductivity conditions are very poor. • Lightning protection is recommended for fixed base station installations, see page 110, <i>Lightning Protection</i>. • Coaxial cable and masts not supplied. For coaxial cables, see page 109, <i>Coaxial Cables</i>. <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • With ALL NGT™ and Envoy™ series Transceivers
	78-01012	<p>Ant, Semi-delta (2–14 MHz, 125 W PEP) Includes: pulleys, halyards, basic installation hardware, and installation instructions</p>
	78-01246	<p>Ant, Semi-delta (2–14 MHz, 1000 W PEP) Includes: pulleys, halyards, basic installation hardware, and installation instructions</p>

TFD411 BROADBAND



PRODUCT	PART NO.	DESCRIPTION
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The Code 411 TFD is a 2-wire terminated folded dipole antenna designed for broadband operation. Designed for 100% duty cycle voice and data operation at the rated power level.

The antenna is easy to install and can be mounted horizontally between two support systems, or as an inverted V using a single central support mast. A large cleared area at ground level is required for installation. Refer to the antenna data sheet for more details.

Includes: stainless steel antenna wiring, pulleys, rope, halyard, UHF coaxial connector and installation instructions

NOTE:

- Recommended mast for the 27 m and 34 m variants of this antenna for horizontal and inverted V configurations is the 10 m Premium Mast (15-60033 or 15-60034).
- The masthead gibbet (15-60035) is also required if installing the 27 m and 34 m variants of these antennas on the 10 m mast as inverted V.
- Recommended mast for the 43 m variant of this antenna for horizontal and inverted V configurations is the 12 m Mast (15-00422-012).
- For further information on masts see page 107, *Antenna Masts*.
- Always select the longest antenna variant possible to maximise propagation efficiency and performance.
- Antenna is fitted with UHF type RF connector.
- Coaxial cable and masts not supplied. For coaxial cables, see page 109, *Coaxial Cables*.
- Lightning protection is recommended for fixed base station installations, see page 110, *Lightning Protection*.

COMPATIBILITY:

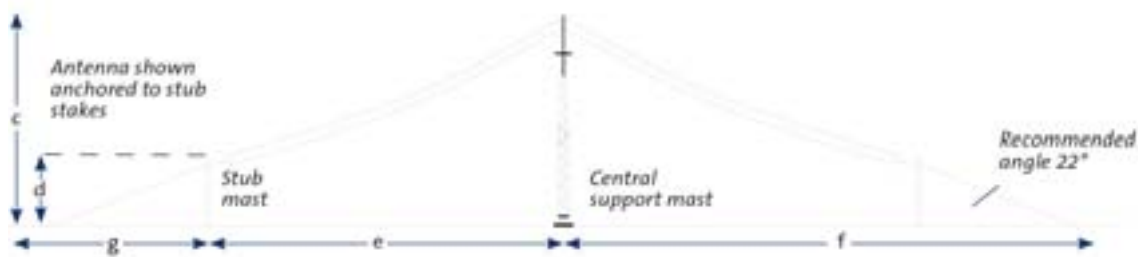
- With ALL NGT™ and Envoy™ series Transceivers

15-00411-005	Ant, TFD411, 125 W, 2–30 MHz, 27 m
15-00411-004	Ant, TFD411, 125 W, 2–30 MHz, 34 m
15-00411-003	Ant, TFD411, 125 W, 2–30 MHz, 43 m
15-00411-011	Ant, TFD411, 1000 W, 2–30 MHz, 34 m
15-00411-012	Ant, TFD411, 1000 W, 2–30 MHz, 43 m

Horizontal Mounting



Inverted 'V' Mounting




Length	Part Numbers	Dimensions (m)						
		a	b	c	d	e	f	g
43 m	15-00411-003 / 012	12	47	12.5	2	20	22	2
34 m	15-00411-004 / 011	10	37	10.5	2	16	18	2
27 m	15-00411-005	10	30	10.5	2	11.7	13.7	2

NOTE:

- Antenna installation dimensions for inverted V assume stub mast heights of 2 m with guy radius of 2 m
- Installation dimensions assume level surface and may vary with sloping or irregular sites
- Mast height (c) for inverted V mounting assumes a masthead gibbet which effectively increases the mast height by 0.5 m



TFD411 BROADBAND/MAST KITS



PRODUCT	PART NO.	DESCRIPTION
		<p>The Terminated Folded Dipole 411 Antenna and Mast Kit provides an easy to deploy and economical antenna solution for 125 W base station applications. The kits are available with different mast finishes and antenna lengths to meet customer requirements. The kits are designed for inverted V antenna configuration to minimise installation footprint and optimise short to medium distance HF communications.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • The 10 m premium guyed mast is included as part of this antenna. For further information on masts see page 107, <i>Antenna Masts</i>. • Always select the longest antenna variant possible to maximise propagation efficiency and performance. • Antennas are fitted with a UHF type RF connector. • Coaxial cable is not supplied. For coaxial cables, see page 109, <i>Coaxial Cables</i>. • Lightning protection is recommended for fixed base station installations, see page 110, <i>Lightning Protection</i>. <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • With ALL NGT™ and Envoy™ series Transceivers <p>Antenna/Mast — Mast Bare Aluminium Finish</p>
	15-60018-005	Ant, TFD411, 125 W, 2–30 MHz, 27 m c/w Lightweight Premium Mast, 10 m
	15-60018-004	Ant, TFD411, 125 W, 2–30 MHz, 34 m c/w Lightweight Premium Mast, 10 m
	15-60018-003	Ant, TFD411, 125 W, 2–30 MHz, 43 m c/w Lightweight Premium Mast, 10 m
		Antenna/Mast — Mast Matt Black Paint Finish
	15-60018-105	Ant, TFD411, 125 W, 2–30 MHz, 27 m c/w Lightweight Premium Black Painted Mast, 10 m
	15-60018-104	Ant, TFD411, 125 W, 2–30 MHz, 34 m c/w Lightweight Premium Black Painted Mast, 10 m
	15-60018-103	Ant, TFD411, 125 W, 2–30 MHz, 43 m c/w Lightweight Premium Black Painted Mast, 10 m

ANTENNA MASTS



PRODUCT	PART NO.	DESCRIPTION
	15-00422-012	<p>Mast, Guyed 12 m with Erection Kit Four section 12 m mast.</p> <p>Guyed tubular aluminium mast with ground plate, halyard pulley, RF transparent guy kit, full erection kit, mast head gibbet and erection instructions.</p> <p>Designed to withstand wind speeds up to 144 kph (40 m/s) in clear air with head loads up to 12 kg, subject to ground anchoring.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • Guying details: Four guy sets, each with four guy wires. 6 m guy radius. • Mast suitable for air freight. <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • Compatible with Tuned Long Wire (15-00403), Travelling Wave Dipole (78-01248, 78-01249, 78-01250), Semi Delta (78-01012 and 78-01246) TFD411 (15-00411-0XX series). Check antenna section for specific details of antennas see page 97.
	15-00422-015	<p>Mast, Guyed 15 m with Erection Kit Five section 15 m mast.</p> <p>Guyed tubular aluminium mast with ground plate, halyard pulley, RF transparent guy kit, full erection kit, mast head gibbet and erection instructions.</p> <p>Designed to withstand wind speeds up to 144 kph (40 m/s) in clear air with head loads up to 12 kg, subject to ground anchoring.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • Guying details: Five guy sets, each with four guy wires. 7 m guy radius. • Mast suitable for air freight. <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • Compatible with Tuned Long Wire (15-00403), Travelling Wave Dipole (78-01248, 78-01249, 78-01250), Full Delta (78-01012 and 78-01246) TFD411 (15-00411-0XX series). Check antenna section for specific details of antennas see page 97.

NOTE: Pictures for illustrative purposes only.

MASTS, GUYED 10 M



PRODUCT	PART NO.	DESCRIPTION
---------	----------	-------------



15-60013

Mast, Guyed 10 m, Lightweight Mast

Lightweight guyed aluminium mast, halyard, and all hardware for ground mounting.

NOTE:

- Guy details: Two guy sets, each with three guy wires and one back stay guy. 5 m guy radius.
- Mast suitable for air freight.

COMPATIBILITY:

- Compatible with Tuned Long Wire (15-00403), TFD411 (15-00411-0XX series). Check antenna section for recommended masts for these antennas.



15-60033

Mast, Guyed 10 m, Premium Mast (Raw)

15-60034

Mast, Guyed 10 m, Premium Mast (Black)

Lightweight guyed aluminium mast available in raw finish or painted black. This mast features full stainless steel guys with rope tails and turnbuckles for quicker and easier installation. Mast kit includes rope halyard, guy anchors (for ground mount) hammer, spintight for cable clamps, and installation instructions.

NOTE:

- Guy details: Two guy sets, each with three guy wires and one back stay guy. 5 m guy radius.
- Mast suitable for air freight.

COMPATIBILITY:

- Compatible with Tuned Long Wire (15-00403), TFD411 (15-00411-0XX series). Check antenna section for recommended masts for these antennas.



15-60035



ACCESSORIES:

Gibbet, 10 m Mast





Gibbet assembly for mounting antennas to the 10 m Premium mast in Inverted V configuration.

NOTE:

Required when mounting the TFD411 series antenna (15-00411-0XX) in inverted V using the 10 m Lightweight (15-60013) or 10 m Premium masts (15-60033 or 15-60034)




COAXIAL CABLES TYPE RG58		
PRODUCT	PART NO.	DESCRIPTION
	08-01503-002	Cable, Coax Assembly, UHF Type Connectors, RG58, 2 m
	08-01503-006	Cable, Coax Assembly, UHF Type Connectors, RG58, 6 m
	08-01503-008	Cable, Coax Assembly, UHF Type Connectors, RG58, 8 m
	08-01503-020	Cable, Coax Assembly, UHF Type Connectors, RG58, 20 m
	08-01503-030	Cable, Coax Assembly, UHF Type Connectors, RG58, 30 m
	08-05837-002	Cable, Coax Assembly, UHF to N-type Connectors, RG58, 2 m
	08-05837-006	Cable, Coax Assembly UHF to N-type Connectors, RG58, 6 m
	08-05837-010	Cable, Coax Assembly UHF to N-type Connectors, RG58, 10 m
	08-05837-020	Cable, Coax Assembly UHF to N-type Connectors, RG58, 20 m
	08-05837-030	Cable, Coax Assembly UHF to N-type Connectors, RG58, 30 m
	60-11163-221	Plug, UHF (RG58) W/proof



COAXIAL CABLES TYPE RG213		
PRODUCT	PART NO.	DESCRIPTION
	08-04971-06	Cable, Coax Assembly, UHF Type Connectors, RG213, 6 m
	08-04971-010	Cable, Coax Assembly, UHF Type Connectors, RG213, 10 m
	08-04971-030	Cable, Coax Assembly, UHF Type Connectors, RG213, 30 m
	08-04971-050	Cable, Coax Assembly, UHF Type Connectors, RG213, 50 m
	08-04971-100	Cable, Coax Assembly, UHF Type Connectors, RG213, 100 m
	08-01233	Strain Relief Reduces strain on connector when supporting RG213 cable assemblies.
	30-38000-002	Shackle Used to attach strain relief to the antenna.
	60-11163-204	Plug, UHF (RG213) W/proof



LIGHTNING PROTECTION

PRODUCT	PART NO.	DESCRIPTION
	15-00464	<p>Lightning Arrestor Self-resetting spark gap arrestor. Requires a good earth to divert energy from a nearby lightning strike.</p> <p>NOTE: Extra length of coaxial cable or extra UHF plug may need to be ordered to fit lightning arrestor into RF feed system.</p>
	30-37601-002	<p>Copper Earth Strip 50 mm x 0.46 mm (26 gauge) supplied in units of 1 m</p>
	15-00163	<p>Earth Stake 1.8 m long x 13 mm with clamp for earth wire/strip.</p>

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**3040 AUTOMATIC TUNING WHIP
STANDARD PACKAGE**



PRODUCT	PART NO.	DESCRIPTION
---------	----------	-------------

ANT-3040-STD



3040 Automatic Tuning Whip Standard Package

The 3040 Automatic Whip Antenna is a low profile, rugged, lightweight unit designed for mobile installations. It provides fast automated tuning across the HF band.

The 3040 is easy to install and meets MIL-STD-810F for shock, immersion, dust and vibration.

NOTE:

Supplied with 6 m cables to connect the 3040 Antenna to an NGT™ Transceiver.

COMPRISING:

- 3040 Main Assembly
- Control NGT™/Envoy™ to 9350/304X Cable, 6 m
- Coax Assembly Cable, UHF Type Connectors, RG58, 6 m
- 3040 Spring
- Riser, Fibreglass
- 3040 Fibreglass Whip, 1.6 m
- 3040 Stainless Steel Whip, 1.6 m
- 3040 Installation Handbook (includes sealing kit)

STANDARD FEATURES:

- 2.5 to 30 MHz
- 125 W PEP voice or data
- Fast tuning typically < 1sec
- Tune from memory

- 08-07007-001
- 08-05627-006
- 08-01503-006
- 08-07148-001
- 78-18058
- 78-23085
- 78-23086
- 15-60012

**3040 AUTOMATIC TUNING WHIP
EXPLORER PACKAGE**



PRODUCT	PART NO.	DESCRIPTION
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ANT-3040-EXP



3040 Automatic Tuning Whip Explorer Package

The 3040 Automatic Whip Antenna is a low profile, rugged, lightweight unit designed for mobile installations. It provides fast automated tuning across the HF band.

The 3040 is easy to install and meets MIL-STD-810F for shock, immersion, dust and vibration.

NOTE:

Supplied with 6 m cables to connect the 3040 Antenna to an NGT™ Transceiver.

COMPRISING:

- 3040 Main Assembly
- Control NGT™/Envoy™ to 9350/304X Cable, 6 m
- Coax Assembly Cable, UHF Type Connectors, RG58, 6 m
- 3040 Spring
- Riser, Fibreglass
- 3040 Stainless Steel Whip, 1.6 m
- 3040 Installation Handbook (includes sealing kit)

STANDARD FEATURES:

- 2.5 to 30 MHz
- 125 W PEP voice or data
- Fast tuning typically < 1sec
- Tune from memory

- 08-07007-001
- 08-05627-006
- 08-01503-006
- 08-07148-001
- 78-18058
- 78-23086
- 15-60012

**9350 AUTOMATIC TUNING WHIP
STANDARD PACKAGE**



PRODUCT	PART NO.	DESCRIPTION
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ANT-9350-STD



9350 Automatic Tuning Whip Standard Package

A robust antenna designed for mobile installations requiring flexible, high performance HF communications. It provides fast automated tuning over the HF range.

The 9350 is easy to install, and meets MIL-STD-810F for shock and vibration.

NOTE:

Supplied with 6 m cables to connect the 9350 Antenna to an NGT™ Transceiver.

COMPRISING:

- 08-05063-001
- 08-05627-006
- 08-01503-006
- 08-05140-001
- 78-23007-003
- 78-23025
- 15-04142-EN

- 9350 Main Assembly
- Control NGT™/Envoy™ to 9350/304X Cable, 6 m
- Coax Assembly Cable, UHF Type Connectors, RG58, 6 m
- 9350 Spring
- 9350 Fibreglass Whip, 1.6 m
- 9350 Tapered Stainless Steel Whip, 1.2 m
- Automatic Tuning Whip Antenna 9350 Installation Handbook

STANDARD FEATURES:

- 125 W PEP voice or data
- Tuning typically 2 seconds
- Transmit frequency range 2 to 30 MHz depending on antenna
- Receive frequency range 250 kHz to 30 MHz

**9350 AUTOMATIC TUNING WHIP
VENTURER PACKAGE**



PRODUCT	PART NO.	DESCRIPTION
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ANT-9350-VENT



9350 Automatic Tuning Whip Venturer Package

A robust antenna designed for mobile installations requiring flexible, high performance HF communications. It provides fast automated tuning over the HF range.

The 9350 is easy to install, and meets MIL-STD-810F for shock and vibration.

NOTE:

Supplied with 6 m cables to connect the 9350 Antenna to an NGT™ Transceiver.

COMPRISING:

- 9350 Main Assembly
- Control NGT™/Envoy™ to 9350/304X Cable, 6 m
- Coax Assembly Cable, UHF Type Connectors, RG58, 6 m
- 9350 Tapered Stainless Steel Whip, 1.6 m
- Automatic Tuning Whip Antenna 9350 Installation Handbook

STANDARD FEATURES:

- 125 W PEP voice or data
- Tuning typically 2 seconds
- Transmit frequency range 2 to 30 MHz depending on antenna
- Receive frequency range 250 kHz to 30 MHz

- 08-05063-001
- 08-05627-006
- 08-01503-006
- 78-23056
- 15-04142-EN

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**ENVOY™ REMOTE CONTROL ACCESSORIES—
ETHERNET**



PRODUCT	PART NO.	DESCRIPTION
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REMOTE-ENVOY-ETH

Envoy Remote Control Accessories — Ethernet

These parts are required to facilitate connection of a 2230 Desktop Console to an X1 or X2 RF Unit via Ethernet cable. The transceiver to Ethernet adaptor is used to convert the 10-pin RF Unit control connector to RJ45 Ethernet socket. The power supply is required to provide power to the 2230 Desktop Console as the Ethernet cable does not provide power from the RF Unit.

COMPRISING:



08-07215-001
78-16019
67-9020#

Cable, Tcvr to Ethernet Adaptor
Desk Console AC Mains Power Supply
2C IEC C7 Cable, 2 m (for cable options, see page 119, *NGT™ Remote Control Accessories*)



67-90802

Cable, Ethernet Straight CAT-5E, 2 m Blue



67-90803

Cable, Ethernet Straight CAT-5E, 10 m Blue



67-90805

Cable, Ethernet Straight CAT-5E, 100 m Blue

denotes the cable variant depending upon country of use

NGT™ REMOTE CONTROL EQUIPMENT—2-WIRE

PRODUCT	PART NO.	DESCRIPTION
---------	----------	-------------

NGT™ Remote 2-wire Interface

An NGT™ Remote Control System is the smart and easy way to achieve clear and reliable communications when your transceiver site is located in an area affected by electrical interference. The NGT™ HF transceiver is relocated to a ‘quiet’ area, while the transceiver is fully operated from a convenient location, such as an office or communication centre.

To create a remote control system, an NGT™ Base Station configuration is extended with a 3030 NGT™ Remote Interface (NRI), which converts both audio and control into RS232 signals. A line modem is required for 2-wire leased line operation.

NOTE:

- Remote control configurations can only be used with NGT™ SR and ASR Transceivers.
- Only used with the 3012 HF Data Modem.
- Two NRIs are required for a complete remote control system.
- Specify the mains connector type (AU, EU, UK or US), see page 119, *NGT™ Remote Control Accessories*.

COMPRISING:

Control Site

- 3030 NGT™ Remote Interface
- NGT™ Remote Control Earth Kit for the Control Site
- Leased Line Modem
- Power Supply Unit, 90 to 264 V AC
- 6-way Modular Wall Mounting Socket
- 6-way Phone Cable
- NRI to Line Modem Cable
- NRI to Line Modem Power Cable
- 2C IEC C7 Cable, 2 m (for cable options, see page 119, *NGT™ Remote Control Accessories*)
- Self Adhesive Rubber Feet (x4)
- Remote Control NGT™ Systems Reference Manual (see page 165, *Language Support* for translations of this manual)

Transceiver Site

- 3030 NGT™ Remote Interface
- NGT™ Remote Control Earth Kit for the Remote Site
- Leased Line Modem
- 6-way Modular Wall Mounting Socket
- CIB Interface Cable, 0.5 m
- 6-way Phone Cable
- NRI to Line Modem Cable
- Power Cable to RF Unit and NRI
- NRI to Line Modem Power Cable
- Self Adhesive Rubber Feet (x4)

REMOTE-NRI-CTRL-2W



- 08-05864-001
- 15-00135
- 78-13016
- 78-16019
- 60-00063-501
- 08-04146-001
- 08-05858-001
- 08-05859-001
- 67-90203
- 30-11208-000
- 15-04102-EN




REMOTE-NRI-TCVR-2W



- 08-05864-001
- 15-00134
- 78-13016
- 60-00063-501
- 08-05610-001
- 08-04146-001
- 08-05858-001
- 08-05868-001
- 08-05859-001
- 30-11208-000

NGT™ REMOTE CONTROL ACCESSORIES



PRODUCT	PART NO.	DESCRIPTION
	08-05920-001	Cable, DC Extension, 1 m The extra length this cable provides may be needed to connect the power supply to the RF Unit in rack configurations.
	08-05610-001	Cable, CIB Interface, 0.5 m
	08-05610-002	Cable, CIB Interface, 2 m
	08-05610-006	Cable, CIB Interface, 6 m
	08-05610-030	Cable, CIB Interface, 30 m
	08-05086-001	Cable, Data Interface, 2 m
	08-05086-006	Cable, Data Interface, 6 m
	67-90200	Cable, 2C IEC C7 AUS, 2 m
	67-90201	Cable, 2C IEC C7 UK, 2 m
	67-90202	Cable, 2C IEC C7 US, 2 m
	67-90203	Cable, 2C IEC C7 EU, 2 m
	15-00172-001	NGT™ Universal 19" Rack-mounting Tray 3RU with Blank Front Panel Suitable for a 3030 NRI.

NGT™ SPLIT-SITE EQUIPMENT — 2-WIRE

PRODUCT	PART NO.	DESCRIPTION
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NGT™ Split-site System — 2-wire Interface

An NGT™ Split-site Remote System consists of two or three sites. Each site consists of the split-site equipment listed below, in addition to the transceiver equipment.

An NGT™ Split-site Remote System can be used to split control, transmit and receive functions of an NGT™ SR or ASR Transceiver system into one of the following basic configurations:

- NGT™ remote transmitter and remote receiver system (3 sites)
- NGT™ remote transceiver system (2 sites)
- NGT™ local transmitter, remote receiver system (2 sites)

The system operates with a standard 2-wire interface.

Contact Codan for detailed system configurations.

NOTE:

- Split-site configurations can only be used with NGT™ SR and ASR Transceivers, and requires one transceiver at each site.
- All NGT™ SR and ASR Transceiver functions available.
- Existing transceivers may require modifications for use in split-site configurations. Contact Codan for details.
- Suitable for use with the 3012 HF Data Modem.

COMPRISING:

Control Site

- Split-site Interface Control Junction Box
- 8571 NGT™ Remote Control Interface
- Earth Wire, 0.5 m (x5)
- CIB Interface Cable, 0.5 m
- Split-site Power Adaptor Cable
- 8571 NGT™ Interface Controller Cable
- Opt 2 W, 2-wire (Factory Fit) (x2)
- NGT™ Audio Mute Modification
- Split-site Remote Control NGT™ Systems Reference Manual (English)

NOTE:

Control Site can only used for transmitting.

Continued on the next page

REMOTE-SPLIT-CTRL-8571-2W



- 08-05630-005
- 08-05994-001
- 08-04515-001
- 08-05610-001
- 08-05989-001
- 08-05990-001
- 15-10509-000
- 15-30067
- 15-04125-EN

NGT™ SPLIT-SITE EQUIPMENT—2-WIRE cont.



PRODUCT	PART NO.	DESCRIPTION
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REMOTE-SPLIT-RX-8571-2W



- 08-05630-005
- 08-05994-001
- 08-04515-001
- 08-05610-001
- 08-05989-001
- 08-05990-001
- 15-10509-000
- 15-30068

Receive Site

COMPRISING

- Split-site Interface Control Junction Box
- 8571 NGT™ Remote Control Interface
- Earth Wire, 0.5 m (x5)
- CIB Interface Cable, 0.5 m
- Split-site Power Adaptor Cable
- 8571 NGT™ Interface Controller Cable
- Opt 2 W, 2-wire (Factory Fit)
- NGT™ Disable PA Modification

NOTE:

Receive Site can only be used for receiving, transmitter is disabled.

REMOTE-SPLIT-TX-8571-2W



- 08-05630-005
- 08-05994-001
- 08-04515-001
- 08-05610-001
- 08-05989-001
- 08-05990-001
- 15-10509-000

Transmit Site

COMPRISING

- Split-site Interface Control Junction Box
- 8571 NGT™ Remote Control Interface
- Earth Wire, 0.5 m (x5)
- CIB Interface Cable, 0.5 m
- Split-site Power Adaptor Cable
- 8571 NGT™ Interface Controller Cable
- Opt 2 W, 2-wire (Factory Fit)

NOTE:

Transmit Site is configured for transmitting only but can be switched to either receive, or transmit and receive.

REMOTE-SPLIT-TXRX-8571-2W



- 08-05630-005
- 08-05994-001
- 08-04515-001
- 08-05610-001
- 08-05989-001
- 08-05990-001
- 15-10509-000

Transmit & Receive Site

COMPRISING

- Split-site Interface Control Junction Box
- 8571 NGT™ Remote Control Interface
- Earth Wire, 0.5 m (x5)
- CIB Interface Cable, 0.5 m
- Split-site Power Adaptor Cable
- 8571 NGT™ Interface Controller Cable
- Opt 2 W, 2-wire (Factory Fit)

NOTE:

Transmit and Receive Site is configured for transmitting and receiving but can be switched to either receive or transmit only.

NGT™ SPLIT-SITE EQUIPMENT — 4-WIRE

PRODUCT	PART NO.	DESCRIPTION
---------	----------	-------------

NGT™ Split-site System — 4-wire Interface

An NGT™ Split-site Remote System consists of two or three sites. Each site consists of the split-site equipment listed below, in addition to the transceiver equipment.

An NGT™ Split-site Remote System can be used to split control, transmit and receive functions of an NGT™ SR or ASR Transceiver system into one of the following basic configurations:

- NGT™ remote transmitter and remote receiver system (3 sites)
- NGT™ remote transceiver system (2 sites)
- NGT™ local transmitter, remote receiver system (2 sites)

The system operates with a standard 4-wire interface.

Contact Codan for detailed system configurations.

NOTE:

- Split-site configurations can only be used with NGT™ SR and ASR Transceivers, and requires one transceiver at each site.
- All NGT™ SR and ASR Transceiver functions available.
- Existing transceivers may require modifications for use in split-site configurations. Contact Codan for details.
- Suitable for use with the 3012 HF Data Modem.

REMOTE-SPLIT-CTRL-8571-4W



- 08-05630-005
- 08-05994-001
- 08-04515-001
- 08-05610-001
- 08-05989-001
- 08-05990-001
- 15-10510-002
- 15-30067
- 15-04125-EN

Control Site

COMPRISING:

- Split-site Interface Control Junction Box
- 8571 NGT™ Remote Control Interface
- Earth Wire, 0.5 m (x5)
- CIB Interface Cable, 0.5 m
- Split-site Power Adaptor Cable
- 8571 NGT™ Interface Controller Cable
- Opt 4 W, 4-wire Interface Master Site (x2)
- NGT™ Audio Mute Modification
- Split-site Remote Control NGT™ Systems Reference Manual (English)

Continued on the next page

NGT™ SPLIT-SITE EQUIPMENT—4-WIRE cont.



PRODUCT	PART NO.	DESCRIPTION
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REMOTE-SPLIT-RX-8571-4W



- 08-05630-005
- 08-05994-001
- 08-04515-001
- 08-05610-001
- 08-05989-001
- 08-05990-001
- 15-10510-004
- 15-30068

Receive Site

COMPRISING:

- Split-site Interface Control Junction Box
- 8571 NGT™ Remote Control Interface
- Earth Wire, 0.5 m (x5)
- CIB Interface Cable, 0.5 m
- Split-site Power Adaptor Cable
- 8571 NGT™ Interface Controller Cable
- Opt 4 W, 4-wire Interface Slave Receive Site
- NGT™ Disable PA Modification

NOTE:

Receive Site is only used for receiving, transmitter is disabled.

REMOTE-SPLIT-TX-8571-4W



- 08-05630-005
- 08-05994-001
- 08-04515-001
- 08-05610-001
- 08-05989-001
- 08-05990-001
- 15-10510-003

Transmit Site

COMPRISING:

- Split-site Interface Control Junction Box
- 8571 NGT™ Remote Control Interface
- Earth Wire, 0.5 m (x5)
- CIB Interface Cable, 0.5 m
- Split-site Power Adaptor Cable
- 8571 NGT™ Interface Controller Cable
- Opt 4 W, 4-wire Interface Slave Transmit Site

NOTE:

Transmit Site is configured for transmitting only but can be switched to either receive, or transmit and receive.

REMOTE-SPLIT-TXRX-8571-4W



- 08-05630-005
- 08-05994-001
- 08-04515-001
- 08-05610-001
- 08-05989-001
- 08-05990-001
- 15-10510-003







Transmit & Receive Site

COMPRISING

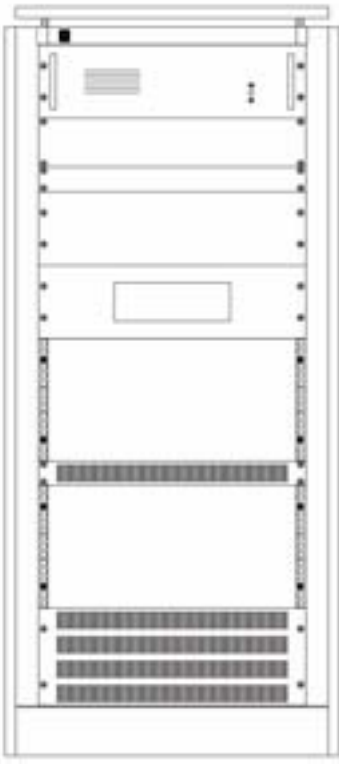
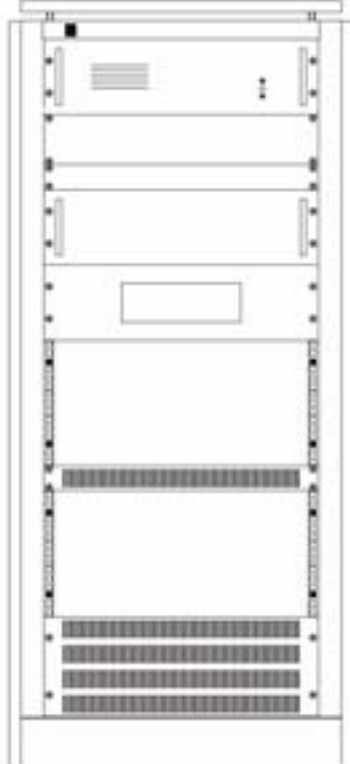
- Split-site Interface Control Junction Box
- 8571 NGT™ Remote Control Interface
- Earth Wire, 0.5 m (x5)
- CIB Interface Cable, 0.5 m
- Split-site Power Adaptor Cable
- 8571 NGT™ Interface Controller Cable
- Opt 4 W, 4-wire Interface Slave Transmit Site

NOTE:

Transmit and Receive Site is configured for transmitting and receiving but can be switched to either receive or transmit only.

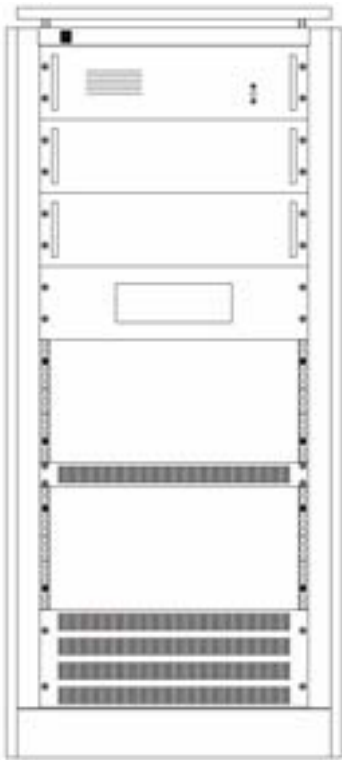
SPLIT-SITE ACCESSORIES		
PRODUCT	PART NO.	DESCRIPTION
	15-00164-010	19" Rack-mounting Frame for 8571 Split-site Remote Interface
	08-04146-001	Cable, 6-way Phone
	08-04284	Cable, Phone Plug Adaptor Modular to 604 Plug
	08-05610-001	Cable, CIB Interface, 0.5 m
	08-05610-002	Cable, CIB Interface, 2 m
	08-05610-006	Cable, CIB Interface, 6 m
	08-05610-030	Cable, CIB Interface, 30 m
	08-05086-001	Cable, Data Interface, 2 m
	08-05086-006	Cable, Data Interface, 6 m
	15-10509	Opt 2 W, 2-wire (Retro Fit)
	15-10510	Opt 4 W, 4-wire (Retro Fit)

STANDARD RACK CONFIGURATIONS

PRODUCT	PART NO.	DESCRIPTION
	<p>08-06130-001</p> <p>NGT TRANSCEIVER SERIES</p> <p>envoy SMART RACKED WEIBER</p>	<p>Basic High Power Rack Configuration</p> <p>Designed to rack mount a basic NGT™/Envoy™ High Power 500 W/1000 W system.</p> <p>COMPRISING:</p> <ul style="list-style-type: none"> • 19" 27RU rack complete with rear door, vented top and side panels • NGT™/Envoy™ universal rack mount tray for an NGT™/Envoy™ Transceiver • NGT™/Envoy™ rack mount tray for 3020 Transceiver Supply • Rack mount blanking panels 1RU, 2RU and 3RU supplied • Rack mount vent panels 1RU and 4RU supplied • Pre-fitted equipment rails • Assorted cable ties, screws, washers and cage nuts <p>NOTE:</p> <ul style="list-style-type: none"> • Rack comes pre-assembled ready for a NGT™/Envoy™ Transceiver and high power amplifier to be mounted. • 6RU of space available for additional equipment. • NGT™/Envoy™ Transceiver, power amplifier and power supply units are ordered separately. • Does not include a 1 m DC Extension Cable for the NGT™/Envoy™ Transceiver.
	<p>08-06130-002</p> <p>NGT TRANSCEIVER SERIES</p>	<p>Remote Control, High Power Rack Configuration</p> <p>Designed to rack mount a NGT™ High Power Remote Control system.</p> <p>COMPRISING:</p> <ul style="list-style-type: none"> • 19" 27RU rack complete with rear door, vented top and side panels • NGT™ universal rack mount tray for a NGT™ Transceiver • NGT™ universal rack mount tray for NGT™ Remote Interface (NRI) remote control • NGT™ rack mount tray for a 3020 Heavy Duty Transceiver Supply • Rack mount blanking panels 1RU and 2RU supplied • Rack mount vent panels 1RU and 4RU supplied • Pre-fitted equipment rails • Assorted cable ties, screws, washers and cage nuts <p>NOTE:</p> <ul style="list-style-type: none"> • Rack comes pre-assembled ready for a NGT™ Transceiver and high power amplifier to be mounted. • 3RU of space available for additional equipment. • NGT™ Transceiver, NRI remote control, high power amplifier and power supply units are ordered separately. • Does not include a 1 m DC Extension Cable for the NGT™ Transceiver.

STANDARD RACK CONFIGURATIONS

PRODUCT	PART NO.	DESCRIPTION
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08-06130-003

Remote Control and Data Modem High Power Rack Configuration

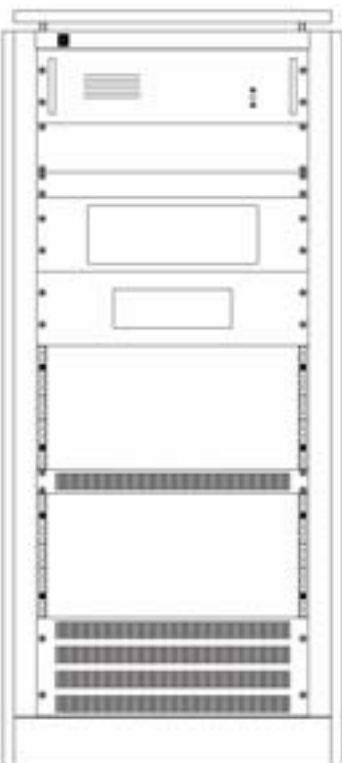
Designed to rack mount a NGT™ High Power Remote Control Data system.

COMPRISING:

- 19" 27RU rack complete with rear door, vented top and side panels
- NGT™ universal rack mount tray for a NGT™ Transceiver
- NGT™ universal rack mount system tray for NRI remote control
- NGT™ universal rack mount system tray for a HF data modem
- NGT™ rack mount tray for a 3020 Heavy Duty Transceiver Supply
- Rack mount vent panels 1RU and 4RU supplied
- Pre-fitted equipment rails
- Assorted cable ties, screws, washers and cage nuts

NOTE:

- Rack comes pre-assembled ready for a NGT™ Transceiver and high power amplifier to be mounted.
- No space available for additional equipment.
- NGT™ Transceiver, NRI remote control, high power amplifier and power supply units are ordered separately.
- Does not include a 1 m DC Extension Cable for the NGT™ Transceiver.



08-06130-004

Split-site Remote Control High Power Rack Configuration

Designed to rack mount a NGT™ High Power Split-Site Remote Control system.

COMPRISING:

- 19" 27RU rack complete with rear door, vented top and side panels
- NGT™ universal rack mount tray for a NGT™ Transceiver
- NGT™ rack mount tray for a 3020 Power supply
- Rack mount blanking panels 1RU and 2RU supplied
- Rack mount vent panels 1RU and 4RU supplied
- Pre-fitted equipment rails
- Assorted cable ties, screws, washers and cage nuts

NOTE:





- Rack comes pre-assembled ready for a NGT™ Transceiver and high power amplifier to be mounted.
- 3RU space available for additional equipment.
- NGT™ Transceiver, NRI remote control, high power amplifier and power supply units are ordered separately.
- Does not include a 1 m DC Extension Cable for the NGT™ Transceiver.






19" RACK CABINETS




PRODUCT	PART NO.	DESCRIPTION
	08-05288-008	Rack Cabinet, 8RU High, 19" Format, 500 mm Deep
	08-05288-012	Rack Cabinet, 12RU High, 19" Format, 500 mm Deep
	08-05288-018	Rack Cabinet, 18RU High, 19" Format, 500 mm Deep

19" RACK MOUNT SYSTEM TRAYS

PRODUCT	PART NO.	DESCRIPTION
	15-00172-001	NGT™ Universal 19" Rack-mounting Tray 3RU with Blank Front Panel Suitable for NGT™ RF units, 3030 NGT™ Remote Interface.
	15-00172-002	NGT™/Envoy™ Universal 19" Rack-mounting Tray 3RU, Front Panel with Speaker Grill and Mounting Holes Suitable for NGT™/Envoy™ RF unit. Speaker can be mounted behind grill and handset can be mounted on front panel using cradle. NOTE: Speaker and handset cradle not included.
	15-00176	19" Rack-mounting Frame suitable for 3020 Transceiver Supply, and 3012 or 3212 HF Data Modems
	15-00164-010	19" Rack-mounting Frame for 8571 Split-site Remote Interface

19" RACK MOUNT BLANKING PANELS		
PRODUCT	PART NO.	DESCRIPTION
	15-00173	Set of 1RU + 2RU Blank Front Panels Suitable for covering gaps or holes in rack facia.
	30-35002-019	19" 4RU Vent Panel
	30-35002-006	19" 1RU Vent Panel

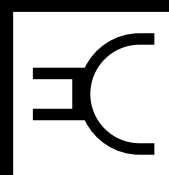


19" RACK MOUNT ACCESSORIES		
PRODUCT	PART NO.	DESCRIPTION
	30-35002-020	Fixed Equipment Rail, 457 mm Long NOTE: Suitable for 27RU rack cabinet only.
	08-05920-001	Cable, DC Extension, 1 m NOTE: Required for the transceiver when it is rack mounted.
	05-06374	Earth Braid, 1.5 m





2110
MANPACK **SERIES**



CODAN
RADIO COMMUNICATIONS

2110 SERIES TRANSCEIVER KIT

PRODUCT	PART NO.	DESCRIPTION
2110-TCVR		<p>2110 series Transceiver Kit</p> <p>The 2110 series Transceivers are ideal for your long distance portable communications. They are designed to meet the most demanding mission and user requirements. Available in two versions, the 2110v is for basic voice only operations and the 2110 has additional interface and interoperability capabilities.</p> <p>The 2110 Transceiver is now available with a front panel mounted socket for connection of an external GPS antenna, e.g. for mobile or indoor applications where GPS signal reception is required.</p> <p>A 2110 series Transceiver Kit consists of a transceiver unit and standard accessories listed below. The following pages detail the parts required for a fully operational manpack system.</p> <p>TRANSCEIVER UNITS:</p> <ul style="list-style-type: none"> • 2110 SSB Transceiver Unit (1.5 ppm) — std frequency stability • 2110 SSB Transceiver (1.5 ppm) — std frequency stability, with front panel GPS connector • 2110 SSB Transceiver Unit (0.5 ppm) — high frequency stability • 2110 SSB Transceiver (0.5 ppm) — high frequency stability, with front panel GPS connector • 2110v SSB Transceiver Unit (1.5 ppm) — std frequency stability <p>STANDARD ACCESSORIES:</p> <ul style="list-style-type: none"> • H-250/U Telephone Handset • Earth wire with clip • Counterpoise 4-wire kit • 2110 series Manpack Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide) <p>STANDARD FEATURES:</p> <ul style="list-style-type: none"> • 1.6–30 MHz, 400 channels, 10 networks • 25 W/5 W (PEP) selectable output power • 12 V DC, USB/LSB/AM • Internal automatic antenna tuner • Multi-net scanning • In-built <i>Easitalk™</i> speech noise reduction • Comprehensive calling capabilities, including emergency call, phone call, selective call, message call, remote diagnostics • Call logging • Up to 65 hours use on a single charge (17Ah battery) • Selectable output power • Computer interface (RS232) for PC control • Front panel programming (where permitted) • Extensive Built-In-Test functions • Meets MIL-STD-810F for shock, vibration, immersion and dust <p>AVAILABLE OPTIONS & ACCESSORIES:</p> <ul style="list-style-type: none"> • See pages 136 and 139 for <i>2110 Options and Accessories</i>.
		<p>2110 series Transceiver Kit</p>  <p>NET WEIGHT: 3.28 kg (7.23 lbs)</p>
	08-06155-001	• 2110 SSB Transceiver Unit (1.5 ppm) — std frequency stability
	08-06155-008	• 2110 SSB Transceiver (1.5 ppm) — std frequency stability, with front panel GPS connector
	08-06155-002	• 2110 SSB Transceiver Unit (0.5 ppm) — high frequency stability
	08-06155-009	• 2110 SSB Transceiver (0.5 ppm) — high frequency stability, with front panel GPS connector
	08-06155-003	• 2110v SSB Transceiver Unit (1.5 ppm) — std frequency stability
	78-08000	• H-250/U Telephone Handset
	08-06259-001	• Earth wire with clip
	15-00446	• Counterpoise 4-wire kit
	15-04136-##	• 2110 series Manpack Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide)

denotes language version

PATROL CONFIGURATION		
PRODUCT	PART NO.	DESCRIPTION
2110-TCVR-PATROL		The Patrol Configuration provides the bare essentials for basic manpack operation.
		NOTE: An appropriate battery charger needs to be ordered separately.
		COMPRISING:
		2110 series Transceiver Kit
		<ul style="list-style-type: none"> • Transceiver Unit (see page 135, <i>2110 Transceiver Units</i> for descriptions of the transceiver units) • H-250/U Telephone Handset • Earth wire with clip • Counterpoise 4-wire kit • 2110 series Manpack Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide)
	08-06155-### 78-08000 08-06259-001 15-00446 15-04136-##	
NET WEIGHT: 3.72 kg (8.2 lbs)		
		Collapsible Whip Antenna 3 m (10')
		Extremely quick-to-erect whip antenna for use while stationary. Comes with a goose neck base to adjust the antenna angle.
	15-00452	
NET WEIGHT: 0.4 kg (0.88 lbs)		
		Long Wire Antenna and Adaptor (1.6–30 MHz)
		Kevlar reinforced tactical wire antenna with throw rope and accessories.
	15-00454	
NET WEIGHT: 0.44 kg (0.97 lbs)		
		Battery Pack 12 V 8Ah NiMH
		Lightweight, robust and waterproof battery pack. Provides for up to 30 hours of continuous operation (Rx/Tx 9:1).
	08-06185-001	
NET WEIGHT: 2.1 kg (4.63 lbs)		
		Softpack Backpack
		Ultra-lightweight economy backpack with extra pockets for transceiver accessories.
	15-00218	
NET WEIGHT: 1.23 kg (2.71 lbs)		

AVAILABLE OPTIONS & ACCESSORIES:





See pages 136 and 139 for *2110 Options and Accessories*.

denotes language version
denotes the type of transceiver unit

EXPLORER CONFIGURATION		
PRODUCT	PART NO.	DESCRIPTION
2110-TCVR-EXP		The Explorer Configuration provides all the requirements for a complete stand-alone HF communications system suitable for a range of uses.
	08-06155-### 78-08000 08-06259-001 15-00446 15-04136-##	COMPRISING: 2110 series Transceiver Kit <ul style="list-style-type: none"> • Transceiver Unit (see page 135, <i>2110 Transceiver Units</i> for descriptions of the transceiver units) • H-250/U Telephone Handset • Earth wire with clip • Counterpoise 4-wire kit • 2110 series Manpack Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, <i>Language Support</i> for translations of this guide)
NET WEIGHT: 3.72 kg (8.2 lbs)		
	15-10525-000	Opt GPS Receiver (Factory Fit) Enables GPS location and tracking capabilities in the 2110 series Transceivers.
NET WEIGHT: 0.02 kg (0.04 lbs)		
	15-00459	Knock Over Whip Antenna 1.5 m (5') Robust short whip antenna suitable for communications while on foot.
NET WEIGHT: 0.28 kg (0.62 lbs)		
	15-00452	Collapsible Whip Antenna 3 m (10') Extremely quick-to-erect whip antenna for use while stationary. Comes with a goose neck base to adjust the antenna angle.
NET WEIGHT: 0.4 kg (0.88 lbs)		
	15-00454	Long Wire Antenna and Adaptor Kevlar reinforced tactical wire antenna with throw rope and accessories.
NET WEIGHT: 0.44 kg (0.97 lbs)		
	08-06185-001	Battery Pack 12 V 8Ah NiMH Lightweight, robust and waterproof battery pack. Provides for up to 30 hours of continuous operation (Rx/Tx 9:1).
NET WEIGHT: 2.1 kg (4.63 lbs)		

Continued on the next page

denotes language version
denotes the type of transceiver unit

EXPLORER CONFIGURATION CONT.		
PRODUCT	PART NO.	DESCRIPTION
 NET WEIGHT: 0.37 kg (0.82 lbs)	78-02007	2110 Battery Charger AC 1 A Used to charge the 2110 battery via the front panel or directly. Supplied with one AC mains cable. NOTE: When ordering, please specify the required AC input cable (AUS, UK, USA or EU), see page 162, <i>Charger Input Cables AC</i> .
 NET WEIGHT: 0.08 kg (0.18 lbs)	08-06215-001	19-way battery charger output cable for 2110 Used to charge the 2110 series Transceivers via the front panel.
 NET WEIGHT: 0.08 kg (0.18 lbs)	08-06214-001	6-way battery charger output cable Used to charge the battery directly.
 NET WEIGHT: 4.3 kg (9.48 lbs)	15-00216-001	External Frame Backpack

AVAILABLE OPTIONS & ACCESSORIES:

See pages 136 and 139 for *2110 Options and Accessories*.

HOMELAND SECURITY CONFIGURATION

PRODUCT	PART NO.	DESCRIPTION
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2110-TCVR-HS

The Homeland Security Configuration provides the complete package for a quick deploy communications solution. It features comprehensive interoperability, GPS location and tracking, and extra long battery life.

COMPRISING:

2110 series Transceiver Kit

- Transceiver Unit
- H-250/U Telephone Handset
- Earth wire with clip
- Counterpoise 4-wire kit
- 2110 series Manpack Transceiver Getting Started Guide, includes Reference Manual on CDROM (see page 165, *Language Support* for translations of this guide)



NET WEIGHT: 3.72 kg (8.2 lbs)

08-06155-002
78-08000
08-06259-001
15-00446
15-04136-##



15-10532

Opt MIL-STD-188-141B ALE

Comprehensive ALE interoperability, fully compliant with MIL-STD-188-141B ALE and JITC certified. Includes the features of FED-STD-1045 ALE available in option 15-10479.



NET WEIGHT: 0.02 kg (0.04 lbs)

15-10525-000

Opt GPS Receiver (Factory Fit)

Enables GPS location and tracking capabilities in the 2110 series Transceivers.



NET WEIGHT: 0.4 kg (0.88 lbs)

15-00452

Collapsible Whip Antenna 3 m (10')

Extremely quick-to-erect whip antenna for use while stationary. Comes with a goose neck base to adjust the antenna angle.



NET WEIGHT: 0.44 kg (0.97 lbs)

15-00454

Long Wire Antenna and Adaptor

Kevlar reinforced tactical wire antenna with throw rope and accessories.



NET WEIGHT: 2.9 kg (6.39 lbs)





08-06186-001

Battery Pack 12 V 13Ah NiMH

Heavy duty, waterproof battery pack. Provides for up to 50 hours of continuous operation (Rx/Tx 9:1).




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denotes language version

HOMELAND SECURITY CONFIGURATION CONT.		
PRODUCT	PART NO.	DESCRIPTION
 NET WEIGHT: 0.37 kg (0.82 lbs)	78-02007	2110 Battery Charger AC 1 A Used to charge the 2110 battery via the front panel or directly. Supplied with one AC mains cable. NOTE: When ordering, please specify the required AC input cable (AUS, UK, USA or EU), see page 162, <i>Charger Input Cables AC</i> .
 NET WEIGHT: 0.08 kg (0.18 lbs)	08-06215-001	19-way battery charger output cable Used to charge the 2110 series Transceivers via the front panel.
 NET WEIGHT: 0.08 kg (0.18 lbs)	08-06214-001	6-way battery charger output cable Used to charge the battery directly.
 NET WEIGHT: 4.3 kg (9.48 lbs)	15-00216-001	External Frame Backpack






AVAILABLE OPTIONS & ACCESSORIES:

See pages 136 and 139 for *2110 Options and Accessories*.





2110 TRANSCIVER UNITS		
PRODUCT	PART NO.	DESCRIPTION
 <p>NET WEIGHT: 2.5 kg (5.51 lbs)</p>	08-06155-001	<p>NOTE:</p> <p>Options and accessories for the manpack transceivers need to be ordered separately.</p> <p>2110 SSB Tcwr Unit (1.5 ppm) 2110 SSB Tcwr Unit (1.5 ppm with front panel GPS connector)</p> <p>The 2110 has additional interface and interoperability capabilities, and is fitted with a 19-way expansion connector for a range of external accessories. It is fully interoperable with Codan's NGT™/Envoy™ series Transceivers and other commercial and military transceivers.</p>
	08-06155-008	
 <p>NET WEIGHT: 2.5 kg (5.51 lbs)</p>	08-06155-002	<p>2110 SSB Tcwr Unit (0.5 ppm) 2110 SSB Tcwr Unit (0.5 ppm with front panel GPS connector)</p> <p>This transceiver is similar to 08-06155-001 except it is fitted with a 0.5 ppm high stability reference oscillator. This version of the 2110 Transceiver is required to meet full MIL-STD-188-141B ALE requirements.</p>
	08-06155-009	
 <p>NET WEIGHT: 2.5 kg (5.51 lbs)</p>	08-06155-003	<p>2110v SSB Tcwr Unit (1.5 ppm)</p> <p>This transceiver is similar to 08-06155-001 except it is not fitted with the 19-way external expansion port. The 2110v is a voice-only manpack transceiver. It is fully interoperable with Codan's NGT™/Envoy™ series Transceivers and other commercial transceivers.</p>

STANDARD FEATURES:

- 1.6 to 30 MHz, 400 channels, 10 networks
- 25 W/5 W (PEP) selectable output power
- 12 V DC, USB/LSB/AM
- 1.5 ppm (parts per million) standard frequency stability
- Internal automatic antenna tuner
- Multi-net scanning
- In-built *Easitalk*™ speech noise reduction
- Comprehensive calling capabilities, including emergency call, phone call, selective call, message call, remote diagnostics
- Call logging
- Selectable output power
- RS232 interface for PC programming
- Front panel programming
- Extensive Built-In-Test functions
- Meets MIL-STD-810F for shock, vibration, immersion and dust
- Front panel GPS connector (with relevant variants of 2110 only)






2110 OPTIONS		
PRODUCT	PART NO.	DESCRIPTION
	15-10558	Opt, Default Open Selcall
 NET WEIGHT: 0.02 kg (0.04 lbs)	15-10525-000	Opt GPS Receiver (Factory Fit) Internally fitted 16-channel GPS receiver module, which enables use with GPS location tracking systems and shows remote locations with distance and bearing.
 NET WEIGHT: 0.01 kg (0.02 lbs)	15-10530-000	Opt 500 Hz Filter (Factory Fit) (2110 only) 500 Hz narrow IF filter that improves performance with morse (CW) and narrow FSK data modems like Pactor-II. NOTE: This filter is fitted in addition to the standard 2 kHz filter. Only one filter in addition to the standard filter is possible.
 NET WEIGHT: 0.01 kg (0.02 lbs)	15-10529-000	Opt 2.7 kHz BW Filter (Factory Fit) (2110 only) 2.7 kHz wide band filter. NOTE: This filter is fitted in addition to the standard 2 kHz filter. Only one filter in addition to the standard filter is possible.
 NET WEIGHT: 0.15 kg (0.33 lbs)	15-10584-000	2G Data Enables integrated data modem capability according to MIL-STD-110-188A/B and STANAG 4539. This provides a range of military spec data waveforms from 75 to 9600 bit/s uncompressed, capable of operating across varying channel conditions. The modem utilises adaptive equalisation and turbo-decoding for maximum performance. Provides efficient email over HF when used in conjunction with RC50-C email gateway (part number 15-04161-CD), see page 58, "RC50-C HF Email Software". AES-256 Encryption option (15-10595) can be added. NOTE: <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10584). • The 2.7 kHz BW filter option (15-10529-000) is recommended for optimum data throughput performance.

2110 OPTIONS cont.

PRODUCT	PART NO.	DESCRIPTION
 <p>NET WEIGHT: 0.15 kg (0.33 lbs)</p>	15-10587-000	<p>S4538 3G ALE</p> <p>Enables third-generation (3G) Automatic Link Establishment (ALE) according to STANAG 4538. This provides superior calling performance including faster linking, and the ability to link in extremely poor channel conditions. A variety of call types are supported including voice, message, over-the-air sync and GPS positioning.</p> <p>AES-256 Encryption option (part number 15-10595) can be added.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • The 2.7 kHz filter (15-10529-000) is fitted as part of the 3G ALE option. • Only recent build standard 2110 Transceivers can support the S4538 retrofit kit. Consult your Codan representative for further information. • The 3G ALE and 2G data capability cannot be used simultaneously.
	15-10595	<p>Opt AES-256 Encryption</p> <p>Adds AES-256 Encryption, with support for up to 256 preloaded keys. Suitable for use in conjunction with the MIL-STANAG 2G Data and 3G ALE options (part numbers 15-10584-000 and 15-10587-000).</p> <p>NOTE:</p> <ul style="list-style-type: none"> • KMS/KFS Key Fill Software recommended (see page 139, <i>Key Management Software</i>).
 <p>NET WEIGHT: 0.04 kg (0.09 lbs)</p>	15-10531-000	<p>Opt CES-128 Encryptor Module (Factory Fit)</p> <p>High grade Voice Encryptor Module that provides high grade voice security with exceptional recovered audio quality.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.
	15-10553-000	<p>Opt AES-256 DV Encryptor Module (Factory Fit)</p> <p>Digital Voice Encryptor module providing excellent digital voice quality and high grade AES-256 bit encryption. Selectable vocoder rates of 1200 and 2400 bit/s are available as standard.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • This option is also available as a retro fit kit (part number 15-10553). • This option is subject to Australian Government Export Controls. A signed End-User Declaration must be provided for supply of this option.







Continued on the next page

2110 OPTIONS cont.		
PRODUCT	PART NO.	DESCRIPTION
<input checked="" type="checkbox"/>	15-10551	Opt Voice Scrambler (CIVS) Codan Integrated Voice Scrambler used to provide basic level voice security capability.
<input checked="" type="checkbox"/>	15-10479	Opt FED-STD-1045 ALE/CALM™ Fully compatible with FED-STD-1045 ALE capabilities and enhanced with Codan Automated Link Management (CALM™). Includes facilities for Selective Calls, All Calls, Phone Calls, Text Messaging and GPS Position Calls.
<input checked="" type="checkbox"/>	15-10532	Opt MIL-STD-188-141B ALE Full Only available for the 2110 Transceiver, this option provides full FED-STD-1045 and MIL-STD-188-141B ALE capabilities, including NET call, ALL call, ANY call, Group Call, Wildcard Call, advanced ALE beacon, in-link AMD messaging and a Last Heard station log. With this option the transceiver has 20 networks and 600 available channels.
<input checked="" type="checkbox"/>	15-10544	Opt MIL-STD-188-141B Upgrade Used to upgrade a 2110 Transceiver that already has FED-STD-1045 ALE/CALM™ enabled to full MIL-STD-188-141B capability. NOTE: This part should <i>only</i> be used for ordering field upgrade passwords.
<input checked="" type="checkbox"/>	15-10518	Opt Amateur Mode Enables transmit capability with free dial frequencies within Amateur frequency bands. For use by licensed operators only.
<input checked="" type="checkbox"/>	15-10481	Opt TxD, Tx Program Disable Disables front panel programming of new transmit frequencies. For use in countries where front panel programming is prohibited by regulatory authorities, e.g. USA and Australia.

2110 ACCESSORIES		
PRODUCT	PART NO.	DESCRIPTION
 NET WEIGHT: 0.35 kg (0.77 lbs)	78-08000	Handset H-250/U Lightweight military handset with noise cancelling microphone and push-to-talk switch. Includes a coiled cord with a standard H-229 military audio connector.
	15-04168-EN	Key Management Software (KMS) Key Management Software (KMS) enables you to manage and program encryption keys for Codan's NGT™/2110/Envoy™ series Transceivers and stand-alone encrypted devices, e.g. RM50e HF Data Modem.
	15-04171-EN	Key Fill Software (KFS) Key Fill Software (KFS) enables you to program encryption keys into Codan's NGT™/2110/Envoy™ series Transceivers and stand-alone encryption devices, e.g. RM50e HF Data Modem.
	08-06901-001	Cable, Data Interface 19way MIL to USB A USB to 19-way MIL Interface Cable for PC control (using RC50-C) and security key programming (KMS/KFS) of the RM50e HF Data Modem and embedded 2G Data Modem (2110 only). Also used for programming of the 2110 Transceiver using NSP.
	08-06237-001	Cable, Data Interface 19way MIL to D9F 9-way D to 19-way MIL Interface Cable for PC control (using RC50-C) and security key programming (KMS/KFS) of the RM50e HF Data Modem and embedded RM50 Modem (2110 only). Also used for programming the 2110 Transceiver using NSP.
	08-06737-001	Cable, Data Interface 5way MIL to D9F 9-way D to 5-way MIL Interface Cable for security key programming (KMS/KFS) and programming of the 2110v Transceiver using NSP.
NET WEIGHT: 0.13 kg (0.29 lbs)		




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Continued on the next page

2110 ACCESSORIES cont.		
PRODUCT	PART NO.	DESCRIPTION
 NET WEIGHT: 0.09 kg (0.2 lbs)	15-04164-EN	System Programmer CD Programming software to program 2110 and NGT™ series Transceivers. Programmer interface cable (part number 08-06237-001 or 08-06737-001) needs to be ordered separately.
 NET WEIGHT: 0.2 kg (0.44 lbs)	78-01031	Adaptor, USB to DB-9, Serial Port USB V1.1 compliant and supports Microsoft Windows™ 2000/XP/Vista/WIN7.
 NET WEIGHT: 0.2 kg (0.44 lbs)	15-00665	Morse Key, Desktop Morse key for desktop use with the 2110 transceiver. Connects to the 19 pin front panel connector.
 NET WEIGHT: 0.2 kg (0.44 lbs)	78-13039	Morse Key, Leg Moun Leg mounted Morse key suitable for man portable use with the 2110 transceiver. Connects to the 19 pin front panel connector.
 NET WEIGHT: 0.26 kg (0.57 lbs)	08-06213-001	Cable, VP-116 Interface Interface cable connecting the VP-116 Voice Privacy Unit to the 2110 Transceiver.
	78-01253	Antenna, Active GPS, SMB, 5 m External GPS antenna for use with 2110 series Manpack variants fitted with front panel GPS connector.

Continued on the next page


2110 ACCESSORIES cont.


PRODUCT	PART NO.	DESCRIPTION
 <p>NET WEIGHT: 0.22 kg (0.49 lbs)</p>	15-04136-##	<p>Getting Started Guide, 2110 series Manpack Transceiver, includes Reference Manual on CDROM</p> <p>Printed Getting Started Guide for the 2110 Transceiver.</p> <p>See page 165, <i>Language Support</i> for translations of this guide.</p>
 <p>NET WEIGHT: 2.4 kg (5.29 lbs)</p>	15-04139-EN	<p>Repair Guide, Manpack Transceiver 2110 series</p> <p>Printed Repair Guide for the 2110 series.</p>
	15-04139-CD	<p>Repair Guide, Manpack Transceiver 2110 series, on CDROM</p>

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RC50-C HF EMAIL SOFTWARE



PRODUCT	PART NO.	DESCRIPTION
	15-04161-CD	<p>RC50-C HF Email Software</p> <p>Codan's RC50-C HF Email software provides fast, efficient, error free email capability over HF radio. Operating in conjunction with Codan's HF Transceivers and 2G Embedded Data and External RM50e Modem, the software operates on a standard Windows™ PC using a single USB port with no specialised PC hardware requirements. When installed, the software runs in the background requiring no user interaction.</p> <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • For use with external RM50e HF Data Modem (NGT™ SRx, SR, ASR, Envoy™ X2 Transceivers) and 2G Embedded Data Modem (Envoy X2 and 2110 Manpack transceiver) <p>COMPRISING:</p> <ul style="list-style-type: none"> • CD-ROM with RC50-C software and documentation <p>STANDARD FEATURES:</p> <ul style="list-style-type: none"> • Adaptive rates up to 9600 bit/s • Compatible with ALE/CALM™ • Intranet/Internet gateway • NATO interoperable • ISB capable <p>SYSTEM REQUIREMENTS:</p> <ul style="list-style-type: none"> • Windows™ XP Professional SP2 or Windows™ 7 • Intel Pentium IV 800 MHz or better • 6 GB or more of free space for email storage • 512 MB or more of RAM • CD-ROM drive • POP3 / SMTP compliant email client • Access to any commercial POP3 / SMTP compliant email server for internet connectivity • Serial/USB port for connecting the HF modem to the PC <p>NOTE:</p> <ul style="list-style-type: none"> • Requires Data Interface Cable (part number 08-06901-001) for connecting the PC to a 2110 series Manpack Transceiver or RM50e HF Data Modem.

UUPLUS™ SOFTWARE		
PRODUCT	PART NO.	DESCRIPTION
	08-05981-001	<p>UUPlus™ Email for HF Server Software</p> <p>Provides HF and Internet email access for up to 25 users. It works in conjunction with UUPlus™ Email for HF Codan Client software, used by each remote station. It has been specifically designed for use with Codan's HF equipment.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • One copy of UUPlus™ Codan Client is required for each user that is to connect to UUPlus™ Codan Server. • A UUPlus™ Codan Server cannot communicate directly to other UUPlus™ Codan Server stations. <p>COMPATIBILITY:</p> <ul style="list-style-type: none"> • For use with 3012 and 3212 HF Data Modems <p>COMPRISING:</p> <ul style="list-style-type: none"> • CD-ROM with UUPlus™ Codan Server software and documentation • Single user licence for installation on one machine <p>STANDARD FEATURES:</p> <ul style="list-style-type: none"> • Works with POP3/SMTP PC email clients such as Outlook Express™. • Capable of interfacing with an Internet Service Provider or Mail Server • Reduces connection time by compressing and combining messages • Automatically resumes interrupted file transfers • Capable of automatically calling the remote user at preset times to deliver mail and collect outgoing mail, or enables the user to check mail manually <p>SYSTEM REQUIREMENTS:</p> <ul style="list-style-type: none"> • Codan HF SSB Transceiver • Codan 3012 or 3212 HF Data Modems • Microsoft Windows™ XP/WIN7 • Internet email client with support of POP3 and SMTP protocols • Serial/USB port for connecting the HF modem to the PC • Optional LAN, dialup networking card or line modem for connecting local email clients and server to the internet

Continued on the next page

UUPLUS™ SOFTWARE CONT.

PRODUCT	PART NO.	DESCRIPTION
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08-05980-001

UUPlus™ Email for HF Client Software

Simple and reliable solution for sending email over HF from remote areas. It works in conjunction with UUPlus™ Codan Server software and has been specifically designed for use with Codan's HF equipment.

COMPATIBILITY:

- For use with 3012 and 3212 HF Data Modems

COMPRISING:

- CD-ROM with UUPlus™ Codan Client software and documentation
- Single user licence for installation on one machine

STANDARD FEATURES:

- Works with POP3/SMTP PC email clients such as Outlook Express™.
- Reduces connection time by compressing and combining messages
- Automatically resumes interrupted file transfers
- Capable of automatically answering calls from the server to exchange mail at preset times, or enables the user to check for mail manually
- Able to send files directly to other stations

SYSTEM REQUIREMENTS:

- Codan HF SSB Transceiver
- Codan 3012 or 3212 HF Data Modems
- Microsoft Windows™ XP/WIN7
- Internet email client with support of POP3 and SMTP protocols
- Serial/USB port for connecting the HF modem to the PC

3012 HF DATA MODEM (NO CABLES)

PRODUCT	PART NO.	DESCRIPTION
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MODEM-3012-NC



08-05877-004
08-04515-001
30-11208-000
15-04104-CD

3012 HF Data Modem (No Cables)

The 3012 HF Data Modem provides reliable and cost-effective computer text and data communication capabilities for organisations operating in remote areas with little or no telecommunications infrastructure.

COMPRISING:

- 3012 HF Data Modem
- Earth Wire, 0.5 m
- Self Adhesive Rubber Feet (x4)
- 3012 HF Data Modem User Guide on CDROM (English)







STANDARD FEATURES:

- Up to 6000 bit/s, error-free data transmission with compression
- In-built data compression
- Backwards compatible with the Codan 9001/9002 HF Data Modems
- Data scrambled for security
- In-built serial port optical isolator
- Easy to use AT command interface

AVAILABLE OPTIONS:

- Support for UUPlus™ *Email for HF* Client or Server software, see page 144, *UUPlus™ Software*.

**3012 HF DATA MODEM FOR 2110 WITH
6 M RS232 CABLE**

PRODUCT	PART NO.	DESCRIPTION
MODEM-3012-2110-6M		3012 HF Data Modem for 2110 with 6 m RS232 Cable This configuration consists of a 3012 HF Data Modem, 6 m Data Interface Cable, and 1 m 2110 Manpack to 3012 Modem Cable.
	08-05877-004	3012 HF Data Modem
	08-04515-001	Earth Wire, 0.5 m
	30-11208-000	Self Adhesive Rubber Feet(x4)
	15-04104-CD	3012 HF Data Modem User Guide on CDROM (English)
	08-05086-006	Data Interface Cable, 6 m
	08-06422-001	2110 Manpack to 3012 Modem Cable, 1 m

3012 ACCESSORIES		
PRODUCT	PART NO.	DESCRIPTION
	15-00136	Cradle, HF Data Modem Vehicle Mounting
	78-01031	Adaptor, USB to DB-9, Serial USB V1.1 compliant and supports Microsoft Windows™ 2000/XP/Vista/WIN7.
	60-00098-590	Adaptor, 9-pin D Plug to 25-pin D Socket
	08-05086-001	Cable, Data Interface, 2 m
	08-05086-006	Cable, Data Interface, 6 m
	08-06422-001	Cable, 2110 Manpack to 3012 Modem, 1 m
	15-04104-##	User Guide, HF Data Modem 3012 Printed User Guide for the 3012 HF Data Modem. See page 165, <i>Language Support</i> for translations of this guide.
	08-05980-001	UUPlus™ Email for HF Client Software Single user access to UUPlus™ Email for HF Server Software. For use with the 3012 or 3212 HF Data Modems.
	08-05981-001	UUPlus™ Email for HF Server Software Email server with support for up to 25 remote or local users and Internet email access. For use with the 3012 or 3212 HF Data Modems.

denotes language version

3212 HF DATA MODEM (NO CABLES)

PRODUCT	PART NO.	DESCRIPTION
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MODEM-3212-NC



3212 HF Data Modem (No Cables)

The 3212 HF Data Modem provides reliable and cost-effective computer text and data communication capabilities for organisations operating in remote areas with little or no telecommunications infrastructure.

The 3212 HF Data Modem uses waveforms derived from Military Standard (MIL-STD) waveforms, which are based on STANAG 4539 and modified to provide optimal performance over commercial channel bandwidths.

COMPRISING:

- 3212 HF Data Modem
- Earth Wire, 0.5 m
- Self Adhesive Rubber Feet (x4)
- 3212 HF Data Modem User Guide on CDROM (English)

STANDARD FEATURES:


- Up to 7200 bit/s error free on-air data rate without compression
- Backwards compatible with Codan 3012 HF Data Modem
- Designed to operate on standard bandwidth commercial HF channels
- In-built DC isolation on all available ports
- Modem control via RS232 or ethernet port

AVAILABLE OPTIONS:




- Support for UUPlus™ *Email for HF* Client or Server software, see page 144, *UUPlus™ Software*.




08-06274-001
08-04515-001
30-11208-000
15-04146-CD

3212 HF DATA MODEM FOR 2110 WITH 2 M RS232 CABLE

PRODUCT	PART NO.	DESCRIPTION
<p>MODEM-3212-2110-2M</p> 		<p>3212 HF Data Modem for 2110 with 2 m RS232 Cable</p> <p>This configuration consists of a 3212 HF Data Modem, 2 m Serial Cable, and 1 m 2110 Manpack to 3212 Modem Cable.</p> <p>The 3212 HF Data Modem uses waveforms derived from Military Standard (MIL-STD) waveforms, which are based on STANAG 4539 and modified to provide optimal performance over commercial channel bandwidths.</p> <p>COMPRISING:</p> <p>08-06274-001 3212 HF Data Modem 08-04515-001 Earth Wire, 0.5 m 30-11208-000 Self Adhesive Rubber Feet (x4) 15-04146-CD 3212 HF Data Modem User Guide on CDROM (English)</p> <p>08-06359-002 Serial D9M-D9F Isol Shield Cable, 2 m</p>  <p>08-06786-001 2110 Manpack to 3212 Modem Cable, 1 m</p> 

**3212 HF DATA MODEM FOR 2110 WITH
6 M RS232 CABLE**

PRODUCT	PART NO.	DESCRIPTION
<p>MODEM-3212-2110-6M</p> 		<p>3212 HF Data Modem for 2110 with 6 m RS232 Cable</p> <p>This configuration consists of a 3212 HF Data Modem, 6 m Serial Cable, and 1 m 2110 Manpack to 3212 Modem Cable.</p> <p>The 3212 HF Data Modem uses waveforms derived from Military Standard (MIL-STD) waveforms, which are based on STANAG 4539 and modified to provide optimal performance over commercial channel bandwidths.</p> <p>COMPRISING:</p> <p>08-06274-001 3212 HF Data Modem 08-04515-001 Earth Wire, 0.5 m 30-11208-000 Self Adhesive Rubber Feet (x4) 15-04146-CD 3212 HF Data Modem User Guide on CDROM (English)</p>  <p>08-06359-006 Serial D9M-D9F Isol Shield Cable, 6 m</p>  <p>08-06786-001 2110 Manpack to 3212 Modem Cable, 1 m</p>

3212 ACCESSORIES		
PRODUCT	PART NO.	DESCRIPTION
	15-00136	Cradle, HF Data Modem Vehicle Mounting
	78-01031	Adaptor, USB to DB-9, Serial USB V1.1 compliant and supports Microsoft Windows™ 2000/XP/Vista/WIN7.
	60-00098-590	Adaptor, 9-pin D Plug to 25-pin D Socket
	39-79150-080	Ferrite Bead Clamp
	08-06359-002	Cable, Serial D9M-D9F Isol Shield, 2 m
	08-06359-006	Cable, Serial D9M-D9F Isol Shield, 6 m
	67-90800	Cable, Ethernet Crossover CAT-5E, 2 m Red
	67-90801	Cable, Ethernet Crossover CAT-5E, 10 m Red
	67-90802	Cable, Ethernet Straight CAT-5E, 2 m Blue
	67-90803	Cable, Ethernet Straight CAT-5E, 10 m Blue
	08-06786-001	Cable, 2110 Manpack to 3212 Modem, 1 m
	15-04146-EN	User Guide, 3212 HF Data Modem (English) Printed User Guide for the 3212 HF Data Modem.

CROSSPATCH™ FOR 2110

PRODUCT	PART NO.	DESCRIPTION
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XPATCH-2110



3031 Crosspatch™ for 2110

Codan's leading edge 3031 Crosspatch™ enables you to carry 'HF on your belt' using a VHF/UHF radio and a Codan NGT™ Transceiver. It is the practical, effective and affordable solution for any organisation that needs to extend their current HF or VHF/UHF networks.

COMPRISING:

- 3031 VHF/UHF to HF Crosspatch™ for 2110
- 3031 to VHF/UHF Transceiver Generic Cable, 2 m
- Crosspatch™ 3031 CD Package (English)
- Crosspatch™ 3031 Quick Reference Cards, English (x2)
- Crosspatch™ 3031 Installation Kit

08-06730-002
08-06766-001
15-04148-CD
06-02489-EN
15-00145

CROSSPATCH™ ACCESSORIES

PRODUCT	PART NO.	DESCRIPTION
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08-06766-001

Cable, 3031 to VHF/UHF Transceiver Generic



06-02489-EN






Quick Reference Card, Crosspatch™ 3031 (English)



15-04148-EN

User Guide, Crosspatch™ 3031 (English)
Printed User Guide for the 3031 Crosspatch.

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LONG WIRE & DIPOLES		
PRODUCT	PART NO.	DESCRIPTION
 NET WEIGHT: 0.44 kg (0.97 lbs)	15-00454	Ant, Long Wire and Adaptor 25 W PEP (1.6–30 MHz) Lightweight Kevlar reinforced Tactical Long Wire antenna. Includes: throw rope, antenna adaptor, winding spool, anchor peg and antenna deployment quick reference card.
 NET WEIGHT: 1.1 kg (2.43 lbs)	15-00458	Ant, End-fed Broadband 25 W PEP (3–30 MHz) Lightweight Kevlar reinforced End-fed Broadband Dipole Antenna. Includes: 3 m (10') coaxial feeding cable terminated with BNC connectors with protective caps, broadband antenna balun, throw rope, counterpoise kit, winding spool, anchor peg and antenna deployment quick reference card.
 NET WEIGHT: 2.6 kg (5.73 lbs)	15-00456	Ant, Broadband Dipole 25 W PEP (3–30 MHz) Lightweight Kevlar reinforced Tactical Broadband Dipole Antenna. Includes: 10 m (30') coaxial feeding cable terminated with BNC connectors with protective caps, broadband antenna balun, two lots of termination resistors, throw ropes, counterpoise kits, winding spools, anchor pegs and antenna deployment quick reference card.
 NET WEIGHT: 2.7 kg (5.95 lbs)	15-00455	Ant, Wire Dipole 25 W PEP (3–30 MHz) Lightweight Kevlar reinforced Tactical Dipole Antenna with tactile length markings. Includes: 10 m (30') coaxial feeding cable terminated with BNC connectors with protective caps, dipole antenna balun, throw rope, antenna adaptor, winding spools, anchor peg and antenna deployment quick reference card.
 NET WEIGHT: 3.3 kg (7.28 lbs)	15-00457	Ant, Dipole and Broadband kit 25 W PEP (2–30 MHz) Lightweight Kevlar reinforced Universal HF Dipole and HF Broadband Dipole Antenna kit. Includes: 10 m (30') coaxial feeding cable terminated with BNC connectors with protective caps, broadband antenna balun, dipole antenna balun, two lots of termination resistors, throw ropes, counterpoise kits, winding spools, anchor pegs and antenna deployment quick reference cards.

TACTICAL MAST

PRODUCT	PART NO.	DESCRIPTION
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NET WEIGHT: 5.0 kg (11.02 lbs)

78-13035

Mast, Man-portable 6 m Tactical

Lightweight, compact man-portable mast system. The kit includes, multi section mast, guy ropes, guy stakes, halyard, base plate stakes and installation instructions. This mast is most suitable for use with lightweight, low power (25 W) antennas used with the 2110 series Manpack Transceiver (see page 155, *Long Wire & Dipoles*).

NOTE:

- The 6 m mast is *not* suitable for use with full size 125 W/ 1 kW Broadband Antennas.
- Certain Manpack Transceiver antennas may require more than one mast. Please check specific mast requirements for each antenna before ordering.

WHIP ANTENNAS

PRODUCT	PART NO.	DESCRIPTION
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NET WEIGHT: 0.4 kg (0.88 lbs)

15-00452

Ant, 3 m (10') Collapsible Whip 25 W

Lightweight collapsible 6 section whip antenna with flexible gooseneck.



NET WEIGHT: 0.25 kg (0.55 lbs)

15-00453

Ant, 1.5 m (5') Tape Whip 25 W

Foldable tape whip antenna with flexible gooseneck.



NET WEIGHT: 0.28 kg (0.62 lbs)

15-00459

Ant, 1.5 m (5') Knock Over Whip 25 W

Lightweight collapsible 3 section knock over whip antenna with flexible gooseneck.

CABLES

PRODUCT	PART NO.	DESCRIPTION
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08-07010-006

Antenna Tuner Control Cable, 6 m




Interface cable for direct connection of antenna tuner to 19-pin front panel connector on 2110 (*not* suitable for 2110v).



08-06357-001




BNC to UHF Coaxial Cable, 1 m

Used to adapt BNC connector on 2110/2110v to UHF socket. Requires additional coaxial cable length for connection to antenna, see page 109, *Coaxial Cables*.

EARTHING		
PRODUCT	PART NO.	DESCRIPTION
 NET WEIGHT: 0.16 kg (0.35 lbs)	15-00446	Counterpoise 4-wire kit Lightweight counterpoise and earthing kit.
 NET WEIGHT: 0.08 kg (0.18 lbs)	15-00462	Anchor peg Used in antenna kits to anchor the antenna wires.
 NET WEIGHT: 0.05 kg (0.11 lbs)	08-06259-001	Earth Wire with Clip Earthing wire 1 m (3') with spring clip.

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BATTERIES

PRODUCT	PART NO.	DESCRIPTION
 NET WEIGHT: 2.1 kg (4.63 lbs)	08-06185-001	Battery Pack 12 V 8Ah NiMH Waterproof 2110 Transceiver battery pack with 12 V, 8Ah rechargeable Nickel Metal Hydride battery and battery management controller. Recharges: ~500 (80% capacity) Useable hours: ~30 hrs (using Rx/Tx 9:1)
 NET WEIGHT: 2.9 kg (6.39 lbs)	08-06186-001	Battery Pack 12 V 13Ah NiMH Waterproof 2110 Transceiver battery pack with 12 V, 13Ah rechargeable Nickel Metal Hydride battery and battery management controller. Recharges: ~500 (80% capacity) Useable hours: ~50 hrs (using Rx/Tx 9:1)
 NET WEIGHT: 2.5 kg (5.5 lbs)	08-07009-001	Battery Pack 12 V 17 Ah LiFePO4 Waterproof 2110 Transceiver battery pack with 12 V, 17 Ah rechargeable battery using lithium iron phosphate chemistry that is safe and has excellent shelf life. Recharges: 2000 (80% capacity) Useable hours: 65 hrs (using Rx/Tx 9:1)

NOTE:




This battery is classified as dangerous goods and may impact freight cost and method. Please contact your Codan Sales Representative for further details.


DC-DC VOLTAGE CONVERTER

PRODUCT	PART NO.	DESCRIPTION
	15-00576	Voltage Regulator (24 V to 12 V operation 7 A) Enables the operation of 2110 series Transceivers in 24/26 V based systems. Protected from faults such as voltage spikes, overload, short circuits and low voltage input. The unit automatically resets once a fault is removed. Nominal Input: 24 V DC Nominal Output: 12 V @ 7 A Efficiency: Greater than 90% at full load

NOTE:



The voltage regulator is not waterproof.

CHARGERS		
PRODUCT	PART NO.	DESCRIPTION
 <p>NET WEIGHT: 3.7 kg (8.16 lbs)</p>	15-00578	<p>2110 Hand-powered Battery Charger</p> <p>A portable hand-powered battery charger that is compact and lightweight, and encased in a robust and waterproof aluminium housing.</p> <p>The charger comes with easy to use accessories for simple operation, and a convenient carrying case.</p> <p>A suitable charger output cable must be ordered separately, see page 161, <i>Charger Output Cables</i>.</p>
 <p>NET WEIGHT: 1 kg (2.2 lbs)</p>	15-00577	<p>2110 Solar Battery Charger (Black)</p> <p>A portable solar-powered 20 W battery charger that uses solid state, thin film solar technology to meet your mobile power needs. It is lightweight, weatherproof and UV resistant, and durable with a tough rip-stop nylon backing.</p> <p>A suitable charger output cable must be ordered separately, see page 161, <i>Charger Output Cables</i>.</p>
 <p>NET WEIGHT: 1 kg (2.2 lbs)</p>	15-00581	<p>2110 Solar Battery Charger (Digital Camo)</p> <p>A portable solar-powered 20 W battery charger that uses solid state, thin film solar technology to meet your mobile power needs. It is lightweight, weatherproof and UV resistant, and durable with a tough rip-stop nylon backing.</p> <p>A suitable charger output cable must be ordered separately, see page 161, <i>Charger Output Cables</i>.</p>




CHARGER MODULES		
PRODUCT	PART NO.	DESCRIPTION
 <p>NET WEIGHT: 0.25 kg (0.55 lbs)</p>	78-02007	<p>Battery Charger AC-DC 3121</p> <p>Low noise 2110 battery charger (90–240 V AC input, 15.5 V @ 1 A output). Suitable for charging while operating the transceiver,</p> <p>NOTE: Suitable AC input cable (with AUS, UK, USA or EU plug) and output cable for AC-DC 3121 charger module must be ordered separately.</p>

Continued on the next page





CHARGER MODULES CONT.

PRODUCT	PART NO.	DESCRIPTION
 <p>NET WEIGHT: 0.4 kg (0.88 lbs)</p>	78-02012	<p>Battery Charger AC-DC 3123</p> <p>Fast 2110 battery pack charger (90–240 V AC input, 15.5 V @ 3 A output) with output cable. Suitable for direct connection to the battery pack only.</p> <p>NOTE: Suitable AC input cable (with AUS, UK, USA or EU plug) must be ordered separately.</p>
 <p>NET WEIGHT: 0.24 kg (0.53 lbs)</p>	78-02008	<p>Battery Charger DC-DC 3122</p> <p>Low noise 2110 battery charger (12–60 V DC input, 15.5 V @ 1 A output). Suitable for charging while operating the transceiver.</p> <p>NOTE: Suitable DC input cable (with vehicle lighter plug or spring clips adaptor) and output cable for DC-DC 3122 charger module must be ordered separately.</p>



CHARGER OUTPUT CABLES

PRODUCT	PART NO.	DESCRIPTION
 <p>NET WEIGHT: 0.08 kg (0.18 lbs)</p>	08-06215-001	<p>Cable, charger O/P, 19way</p> <p>Used to charge the 2110 series Transceivers via the front panel. Can be used with 3121 and 3122 Battery Chargers, and handcrank and solar chargers.</p>
 <p>NET WEIGHT: 0.08 kg (0.18 lbs)</p>	08-06738-001	<p>Cable, charger O/P, 5way</p> <p>Used to charge the 2110v transceiver via the front panel. Can be used with 3121 and 3122 Battery Chargers, and handcrank and solar chargers.</p>
 <p>NET WEIGHT: 0.08 kg (0.18 lbs)</p>	08-06214-001	<p>Cable, Charger O/P, 6way</p> <p>Used to charge the battery directly. Can be used with 3121 and 3122 Battery Chargers, and handcrank and solar chargers.</p>

CHARGER INPUT CABLES AC

PRODUCT	PART NO.	DESCRIPTION
 NET WEIGHT: 0.1 kg (0.22 lbs)	67-90200	Cable, 2C AUS IEC C7 2 m IEC 2-wire mains cable with AUS plug.
 NET WEIGHT: 0.13 kg (0.29 lbs)	67-90201	Cable, 2C UK IEC C7 2 m IEC 2-wire mains cable with UK plug.
 NET WEIGHT: 0.16 kg (0.35 lbs)	67-90202	Cable, 2C USA IEC C7 2 m IEC 2-wire mains cable with USA plug.
 NET WEIGHT: 0.09 kg (0.198 lbs)	67-90203	Cable, 2C EU IEC C7 2 m IEC 2-wire mains cable with EU plug.

CHARGER INPUT CABLES DC

PRODUCT	PART NO.	DESCRIPTION
 NET WEIGHT: 0.11 kg (0.24 lbs)	08-06216-001	Cable, DC Charger I/P, Lighter Adaptor DC input cable to connect an in-vehicle lighter socket to DC-DC 3122 charger module.
 NET WEIGHT: 0.15 kg (0.33 lbs)	08-06217-001	Cable, DC Charger I/P, Clips Adaptor DC input cable with spring clips to connect DC power source to DC-DC 3122 charger module.

BACKPACKS

PRODUCT	PART NO.	DESCRIPTION
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15-00216-001

Backpack, External Frame

Heavy duty backpack with external frame and ergonomic shoulder harness with ventilation panel for comfort. It has side, bottom and front pockets for transceiver accessories, reference materials, and personal items. The modular external frame allows for additional loads of up to 50 kg.

Made from 1000 Denier Black bulked filament nylon, black co-polymer frame.

NET WEIGHT: 4.3 kg (9.48 lbs)



15-00218

Backpack, Softpack

Lightweight, compact and comfortable backpack providing storage for transceiver, all accessories as well as personal items.

Made from Black Cordura.

NET WEIGHT: 1.23 kg (2.71 lbs)

MOUNTING ACCESSORIES		
PRODUCT	PART NO.	DESCRIPTION
 <p>NET WEIGHT: 1.7 kg (3.75 lbs)</p>	15-00139	<p>Cradle, 2110/2110v with Screws</p> <p>Heavy duty docking cradle used to secure the 2110 or 2110v transceiver in a vehicle. With quick release latches and screw kit, the radio can be easily docked with the battery pack attached.</p>
 <p>NET WEIGHT: 2.5 kg (5.51 lbs)</p>	15-00140	<p>Cradle, 2110 with Interface Adaptor</p> <p>Transceiver cradle (part number 15-00139) plus an interface adaptor for external antenna, GPS, data interfaces, and DC battery charger. Includes a speaker amplifier and external speaker, and can be adapted to interface with a VP-116 Voice Privacy Unit via an NGT™ VP-116 Interface cable (part number 08-06213-001).</p> <p>NOTE: Cannot be used with the 2110v Transceiver.</p>
 <p>NET WEIGHT: 1.9 kg (4.19 lbs)</p>	15-00141	<p>Cradle, 2110 with 9350 Interface</p> <p>Suitable for interfacing with the 9350 Automatic Tuning Whip Antenna and a DC battery charger. For 9350 ordering details, see page 91, <i>9350 Automatic Tuning Whip Antenna</i>.</p> <p>NOTE: Cannot be used with the 2110v Transceiver.</p>
 <p>NET WEIGHT: 0.3 kg (0.66 lbs)</p>	15-00143	<p>2110 External DC for Cradle</p> <p>Backpanel for the transceiver cradle that provides DC connection for the transceiver directly to the vehicle battery.</p> <p>NOTE:</p> <ul style="list-style-type: none"> The transceiver cradle is only shown for illustration purposes. Voltage regulator (part number 15-00576) is available for 24 V vehicle operation. See page 159, <i>DC-DC Voltage Converter</i>.
 <p>NET WEIGHT: 1.7 kg (3.75 lbs)</p>	15-00144	<p>2110 External DC Vehicle Kit</p> <p>Complete vehicle installation kit incorporating the external DC backpanel (part number 15-00143). It provides DC connection for the transceiver directly to the vehicle battery.</p> <p>NOTE: Voltage regulator (part number 15-00576) is available for 24 V vehicle operation. See page 159, <i>DC-DC Voltage Converter</i>.</p>



Support Information

ENGLISH MANUALS

PRODUCT	PART NO.	DESCRIPTION
	15-04177-EN	Getting Started Guide, Envoy™ Transceiver, includes Reference Manual on CDROM
	06-02809-EN	Quick Reference Card, Envoy X1 and X2
	15-04127-EN	Getting Started Guide, NGT™ Transceiver, includes Reference Manual on CDROM
	15-04140-EN	Getting Started Guide, NGT™ SRx Transceiver, includes Reference Manual on CDROM
	15-04137-EN	Getting Started Guide, NGT™ ASR Transceiver, includes Reference Manual on CDROM
	15-04136-EN	Getting Started Guide, 2110 series Manpack Transceiver, includes Reference Manual on CDROM
	15-04104-EN	User Guide, HF Data Modem 3012 a
	15-04104-CD	User Guide, HF Data Modem 3012, on CDROM

Continued on the next page

ENGLISH MANUALS CONT.

PRODUCT	PART NO.	DESCRIPTION
	15-04146-EN	User Guide, 3212 HF Data Modem
	15-04146-CD	User Guide, 3212 HF Data Modem, on CDROM
	15-04148-EN	User Guide, Crosspatch™ 3031
	15-04148-CD	User Guide, Crosspatch™ 3031, on CDROM
	15-04131-EN	Reference Manual, High Power Amplifiers 3061/3062
	15-04156-EN	User Guide, 3033 Telephone Interconnect
	15-04156-CD	User Guide, 3033 Telephone Interconnect, on CDROM
	15-04102-EN	Reference Manual, Remote Control NGT™ Systems

Continued on the next page

ENGLISH MANUALS CONT.

PRODUCT	PART NO.	DESCRIPTION
	15-04125-EN	Reference Manual, Split-site Remote Control NGT™ Systems
	15-04142-EN	Installation Handbook, Automatic Tuning Whip Antenna 9350
	15-04143-EN	Repair Guide, NGT™ Transceiver
	15-04143-CD	Repair Guide, NGT™ Transceiver, on CDROM
	15-04139-EN	Repair Guide, Manpack Transceiver 2110 series
	15-04139-CD	Repair Guide, Manpack Transceiver 2110 series on CDROM
	15-60012	Installation Handbook, 3040 Automatic Whip Antenna, c/w antenna connector sealing kit



Continued on the next page

FRENCH MANUALS		
PRODUCT	PART NO.	DESCRIPTION
	15-04127-FR	Getting Started Guide, NGT™ Transceiver, includes Reference Manual on CDROM
	15-04140-FR	Getting Started Guide, NGT™ SRx Transceiver, includes Reference Manual on CDROM
	15-04136-FR	Getting Started Guide, 2110 series Manpack Transceiver, includes Reference Manual on CDROM
	15-04104-FR	User Guide, HF Data Modem 3012
	15-04102-FR	Reference Manual, Remote Control NGT™ Systems
	15-04142-FR	Installation Handbook, Automatic Tuning Whip Antenna 9350


SPANISH MANUALS

PRODUCT	PART NO.	DESCRIPTION
	15-04127-ES	Getting Started Guide, NGT™ Transceiver, includes Reference Manual on CDROM
	15-04137-ES	Getting Started Guide, NGT™ ASR Transceiver, includes Reference Manual on CDROM
	15-04140-ES	Getting Started Guide, NGT™ SRx Transceiver, includes Reference Manual on CDROM
	15-04136-ES	Getting Started Guide, 2110 series Manpack Transceiver, includes Reference Manual on CDROM
	15-04131-ES	Reference Manual, High Power Amplifiers 3061/3062
	15-04142-ES	Installation Handbook, Automatic Tuning Whip Antenna 9350
	06-02809-ES	Quick Reference Card, Envoy X1 and X2

ARABIC MANUALS

PRODUCT	PART NO.	DESCRIPTION
	15-04140-AR	Getting Started Guide, NGT™ SRx Transceiver, includes Reference Manual on CDROM
	15-04136-AR	Getting Started Guide, 2110 series Manpack Transceiver, includes Reference Manual on CDROM


DARI MANUALS

PRODUCT	PART NO.	DESCRIPTION
	06-02809-FA	Quick Reference Card, Envoy X1 and X2

PORTUGUESE MANUALS

PRODUCT	PART NO.	DESCRIPTION
	15-04140-PT	Getting Started Guide, NGT™ SRx Transceiver, includes Reference Manual on CDROM

RUSSIAN MANUALS

PRODUCT	PART NO.	DESCRIPTION
	06-02809-RU	Quick Reference Card, Envoy X1 and X2

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
2110-TCVR	2110 SSB Transceiver Kit	B2	5.0
2110-TCVR-PATROL	2110 Patrol Configuration	CMR	11.0
2110-TCVR-EXP	2110 Explorer Configuration	AA + BPK	14.5
2110-TCVR-HS	2110 Homeland Security Configuration	AA + BPK	16.0
ANT-3040-NC	3040 Automatic Tuning Whip (No Cables)	B + Tube	5.07
ANT-3040-6M	3040 Automatic Tuning Whip with 6 m Cables	B + Tube	5.75
ANT-3042-NC	3042 HF Antenna Tuner with 6 m Cables	B	4.12
ANT-3042-6M	3042 HF Antenna Tuner (No Cables)	B	3.6
ANT-9350-NC	9350 Automatic Tuning Whip (No Cables)	D	8.6
ANT-9350-6M	9350 Automatic Tuning Whip with 6 m Cables	D	9.28
CONTROL-POINT-ASR-6M	NGT™ ASR Control Point Kit	B	2.5
CONTROL-POINT-SR-6M	NGT™ SR Control Point Kit	B	2.5
ENVOY-X1-BASE	Envoy™ X1 Base Station Configuration	B, PSU, T	14.02
ENVOY-X1-BASE-AUS	Envoy™ X1 Base Configuration for Australia	B, PSU, T	14.02
ENVOY-X1-CONS-AUS	Envoy™ X1 Base (with Console) Configuration for Australia	B, PSU, T	15.12
ENVOY-X1-MOB	Envoy™ X1 Mobile Configuration	B	4.23
ENVOY-X1-MOB-3040-AUS	Envoy™ X1 Mobile (3040) Configuration for Australia	B, B, TUBE	14.58
ENVOY-X1-MOB-9350-AUS	Envoy™ X1 Mobile (9350) Configuration for Australia	B, D	16.46
ENVOY-X1-MOB-EXPLORER-AUS	Envoy™ X1 Explorer Mobile Configuration for Australia	B, B, TUBE	14.45
ENVOY-X1-MOB-VENTURER-AUS	Envoy™ X1 Venturer Mobile Configuration for Australia	B, D	15.06
ENVOY-X1-TCVR	Envoy™ X1 Transceiver	B	4.23
ENVOY-X1-TCVR-AUS	Envoy™ X1 Transceiver for Australia	B	4.23
ENVOY-X2-BASE	Envoy™ X2 Base Station Configuration	B	4.23
ENVOY-X2-BASE-AUS	Envoy™ X2 Base Configuration for Australia	B, PSU, T	14.02
ENVOY-X2-CONS-AUS	Envoy™ X2 Base (with Console) Configuration for Australia	B, PSU, T	15.12
ENVOY-X2-MOB	Envoy™ X2 Mobile Configuration	B	4.23

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
ENVOY-X2-MOB-3040-AUS	Envoy™ X2 Mobile (3040) Configuration for Australia	B, B, TUBE	14.58
ENVOY-X2-MOB-9350-AUS	Envoy™ X2 Mobile (9350) Configuration for Australia	B, D	16.46
ENVOY-X2-TCVR	Envoy™ X2 Transceiver	B	4.23
ENVOY-X2-TCVR-AUS	Envoy™ X2 Transceiver for Australia	B	4.23
HIGH-PWR-500	3061 500 W Power Amplifier	HPPA1, HPPA2	35.0
HIGH-PWR-1000	3062 1 kW Power Amplifier	HPPA1, HPPA2	47.0
MODEM-3012-NC	3012 HF Data Modem (No Cables)	PSU	2.99
MODEM-3012-NGT-2M	3012 HF Data Modem for NGT™ with 2 m RS232 Cable	PSU	3.37
MODEM-3012-NGT-6M	3012 HF Data Modem for NGT™ with 6 m RS232 Cable	PSU	3.59
MODEM-3012-2110-6M	3012 HF Data Modem for 2110 with 6 m RS232 Cable	PSU	3.56
MODEM-3212-NC	3212 HF Data Modem (No Cables)	B	3.0
MODEM-3212-NGT-2M	3212 HF Data Modem for NGT™ with 2 m RS232 Cable	B	4.39
MODEM-3212-NGT-6M	3212 HF Data Modem for NGT™ with 6 m RS232 Cable	B	5.74
MODEM-3212-2110-2M	3212 HF Data Modem for 2110 with 2 m RS232 Cable	B	4.74
MODEM-3212-2110-6M	3212 HF Data Modem for 2110 with 6 m RS232 Cable	B	5.74
NGT-AR-BASE-CON	NGT™ AR Base Configuration for Australia	B	15.47
NGT-AR-MOB	NGT™ AR Mobile Configuration for Australia	B, D	16.46
NGT-AR-MOB-3040	NGT™ AR Mobile (3040) Configuration for Australia	B, B, TUBE	14.58
NGT-AR-TCVR	NGT™ AR Transceiver Configuration for Australia	B	7.0
NGT-ASR-BASE	NGT™ ASR Base Station Configuration	A, PSU, T463	20.0
NGT-ASR-MOB	NGT™ ASR Mobile Configuration	B, D	18.0

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
NGT-ASR-TCVR	NGT™ ASR Transceiver	B	7.0
NGT-SR-BASE	NGT™ SR Base Station Configuration	A, PSU, T463	20.0
NGT-SR-MOB	NGT™ SR Mobile Configuration	B, D	18.0
NGT-SR-TCVR	NGT™ SR Transceiver	B	7.0
NGT-SRX-BASE	NGT™ SRx Base Station Configuration	A, PSU, T463	20.0
NGT-SRX-MOB	NGT™ SRx Mobile Configuration	B, D	18.0
NGT-SRX-TCVR	NGT™ SRx Transceiver Configuration	B	7.0
NGT-SRX-BASE-AUS	NGT SRx Base Configuration for Australia	B, T643, PSU	14.47
NGT-SRX-TCVR-AUS	NGT™ SRx Transceiver Configuration for Australia	B	5.04
NGT-SRX-MOB-3040	NGT™ SRx Mobile (3040) Configuration for Australia	B, B, TUBE	14.58
NGT-SRX-MOB-AUS	NGT™ SRx Mobile (9350) Configuration for Australia	B, D	16.46
REMOTE-ENVOY-ETH	Envoy Remote Control Accessories — Ethernet	B	1.6
REMOTE-NRI-CTRL-2W	NGT™ Remote Interface Control Site — 2 Wire Interface	B	4.63
REMOTE-NRI-TCVR-2W	NGT™ Remote Interface Transceiver Site — 2 Wire Interface	B	4.16
REMOTE-SPLIT-CTRL-8571-2W	NGT™ Split-site Control Site — 2 Wire Interface	B	6.99
REMOTE-SPLIT-RX-8571-2W	NGT™ Split-site Receive Site — 2 Wire Interface	B	6.49
REMOTE-SPLIT-TX-8571-2W	NGT™ Split-site Transmit Site — 2 Wire Interface	B	6.39
REMOTE-SPLIT-TXRX-8571-2W	NGT™ Split-site Transmit & Receive — 2 Wire Interface	B,B	13.0
REMOTE-SPLIT-CTRL-8571-4W	NGT™ Split-site Control Site — 4 Wire Interface	B	6.91
REMOTE-SPLIT-RX-8571-4W	NGT™ Split-site Receive Site — 4 Wire Interface	B	6.41
REMOTE-SPLIT-TX-8571-4W	NGT™ Split-site Transmit Site — 4 Wire Interface	B	6.31
REMOTE-SPLIT-TXRX-8571-4W	NGT™ Split-site Transmit & Receive Site — 4 Wire Interface	B,B	13.0
RTI-3033-NGT	3033 Telephone Interconnect	HPA	10.0

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
XPATCH-NGT	3031 Crosspatch™ for NGT™	L	0.84
XPATCH-2110	3031 Crosspatch™ for 2110	L	0.84
05-06374	Earth Braid, 1.5 m	M	0.5
06-02489-EN	Quick Reference Card, Crosspatch™ 3031 (English)	L	0.32
06-02809-EN	Quick Reference Card, Envoy™ (English)	L	0.32
08-01233	Strain Relief	L	0.5
08-01503-002	Cable, Coax Assembly, UHF Type Connectors, RG58, 2 m	M	0.5
08-01503-006	Cable, Coax Assembly, UHF Type Connectors, RG58, 6 m	L	0.5
08-01503-008	Cable, Coax Assembly, UHF Type Connectors, RG58, 8 m	L	0.5
08-01503-030	Cable, Coax Assembly, UHF Type Connectors, RG58, 30 m	B	3.0
08-03255	Cable, Battery, 6 m	L	0.5
08-04146-001	Cable, 6-way Phone	M	0.5
08-04284	Cable, Phone Plug Adaptor Modular to 604 Plug	M	0.5
08-04515-001	Earth Wire, 0.5 m	M	0.5
08-04835-013	Tuner, 9103 Automatic Antenna with 10 m Cables	B	4.0
08-04835-015	Tuner, 9103 Automatic Antenna with 30 m Cables	B	4.0
08-04971-010	Cable, Coax Assembly, UHF Type Connectors, RG213, 10 m	A	2.0
08-04971-030	Cable, Coax Assembly, UHF Type Connectors, RG213, 30 m	A	5.0
08-04971-050	Cable, Coax Assembly, UHF Type Connectors, RG213, 50 m	A	7.0
08-04971-100	Cable, Coax Assembly, UHF Type Connectors, RG213, 100 m	A	20.0
08-05063-001	9350 Main Assembly	D	7.0
08-05086-001	Cable, Data Interface, 2 m	L	0.5
08-05086-006	Cable, Data Interface, 6 m	L	0.5
08-05123-001	Cable, NSP Interface	M	0.5
08-05140-001	9350 Spring	L	1.0
08-05288-009	Rack Cabinet, 9RU High, 19" Format, 500 mm Deep	R	23.4
08-05288-012	Rack Cabinet, 12RU High, 19" Format, 500 mm Deep	R	22.0
08-05288-018	Rack Cabinet, 18RU High, 19" Format, 500 mm Deep	H	24.0
08-05399-001	Cable, Battery Paralleling (+ve)	M	0.5

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
08-05399-002	Cable, Battery Paralleling (-ve)	M	0.5
08-05610-001	Cable, CIB Interface, 0.5 m	M	0.5
08-05610-002	Cable, CIB Interface, 2 m	M	0.5
08-05610-006	Cable, CIB Interface, 6 m	P4	0.5
08-05610-030	Cable, CIB Interface, 30 m	1/2B	3.0
08-05627-002	Cable, NGT™/Envoy™ to 9350/304X Control, 2 m	L	0.2
08-05627-006	Cable, NGT™/Envoy™ to 9350/304X Control, 6 m	L	0.5
08-05627-008	Cable, NGT™/Envoy™ to 9350/304X Control, 8 m	L	0.5
08-05627-010	Cable, NGT™/Envoy™ to 9350/304X Control, 10 m	PSU	0.5
08-05627-020	Cable, NGT™/Envoy™ to 9350/304X Control, 20 m	PSU	1.2
08-05627-030	Cable, NGT™/Envoy™ to 9350/304X Control, 30 m	B	3.0
08-05628-001	NGT™ SR 2010 RF Unit	B	5.0
08-05628-004	NGT™ VR 2011 RF Unit	B	5.0
08-05628-007	NGT™ ASR 2010 RF Unit	B	5.0
08-05628-009	NGT™ SRx 2012 RF Unit	B	5.0
08-05629-001	NGT™ SR 2020 Handset	L	0.3
08-05629-007	NGT™ ASR 2020 Handset	L	0.3
08-05629-009	NGT™ SRx 2020 Handset	L	0.3
08-05630-001	NGT™ SR 2030 Junction Box	1/2B	0.5
08-05630-005	Split-site Interface Control Junction Box	1/2B	0.5
08-05630-007	NGT™ ASR 2030 Junction Box	1/2B	0.5
08-05712-001	Cable, NGT™ to 3012 Modem, 1 m	L	0.5
08-05712-006	Cable, NGT™ to 3012 Modem, 6 m	L	0.72
08-05837-002	Cable, Coax Assembly, UHF to N-type Connectors, RG58, 2 m	L	0.125
08-05837-006	Cable, Coax Assembly UHF to N-type Connectors, RG58, 6 m	PSU	0.285
08-05837-010	Cable, Coax Assembly UHF to N-type Connectors, RG58, 10 m	PSU	0.5
08-05837-020	Cable, Coax Assembly UHF to N-type Connectors, RG58, 20 m	PSU	1.1
08-05847-001	Interface Adaptor	M	0.2

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
08-05858-001	Cable, NRI to Line Modem	M	0.5
08-05859-001	Cable, Power NRI to Line Modem	M	0.5
08-05864-001	3030 NGT™ Remote Interface Unit	B	2.0
08-05868-001	Cable, Power to RF Unit and NRI	M	0.5
08-05877-004	3012 HF Data Modem	B	2.74
08-05920-001	Cable, DC Extension, 1 m	M	0.2
08-05956-001	Cable, High Power Amplifier Controller	L	0.5
08-05974-001	3061 500 W Power Amplifier	HPPA1	20.0
08-05975-001	3062 1 kW Power Amplifier	HPPA1	27.0
08-05980-001	UUPlus™ <i>Email for HF</i> Client Software	1/2B	0.5
08-05981-001	UUPlus™ <i>Email for HF</i> Server Software	1/2B	0.5
08-05989-001	Cable, Power Adaptor, Split-site	M	0.5
08-05990-001	Cable, 8571 Split-site Remote Interface to NGT™	M	0.5
08-05994-001	8571 NGT™ Remote Control Interface	B	2.0
08-06022-001	Envoy™/NGT™ Handset Control Cable, 6 m	M	0.4
08-06067-001	3061 500 W Power Supply Unit	HPPA2	14.0
08-06102-001	3062 1 kW Power Supply Unit	HPPA2	17.0
08-06130-001	Basic High Power Rack Configuration	H	90
08-06130-002	Remote Control, High Power Rack Configuration	H	90
08-06130-003	Remote Control and Data Modem High Power Rack Configuration	H	90
08-06130-004	Split-site Remote Control High Power Rack Configuration	H	90
08-06155-001	2110 SSB Tcvr Unit (1.5 ppm)	PSU	3.5
08-06155-002	2110 SSB Tcvr Unit (0.5 ppm)	PSU	3.5
08-06155-003	2110v SSB Tcvr Unit (1.5 ppm)	PSU	3.5
08-06185-001	Battery Pack 12 V 8Ah NiMH	1/2B	2.6
08-06186-001	Battery Pack 12 V 13Ah NiMH	1/2B	3.4
08-06213-001	Cable, VP-116 Interface	M	0.5
08-06214-001	Cable, Charger O/P, 6way	M	0.3
08-06215-001	Cable, charger O/P, 19way	M	0.3

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
08-06216-001	Cable, DC Charger I/P, Lighter Adaptor	M	0.4
08-06217-001	Cable, DC Charger I/P, Clips Adaptor	M	0.4
08-06222-001	NGT™ ASR VP-116 Junction Box	1/2B	0.5
08-06237-001	Cable, 2110 Prog 19way MIL-D9F	M	0.5
08-06259-001	Earth Wire with Clip	M	0.3
08-06274-001	3212 HF Data Modem	B	4.34
08-06330-001	Cable, NGT™ to Q9600 Modem, 1 m	M	0.5
08-06356-001	Cable, NGT™/Envoy™ to 3212 Modem, 1 m	L	0.42
08-06356-006	Cable, NGT™/Envoy™ to 3212 Modem, 6 m	L	0.76
08-06357	Cable, BNC to UHF Coaxial, 1 m	M	0.2
08-06359-002	Cable, Serial D9M-D9F Isol Shield Cable, 2 m	M	0.4
08-06359-006	Cable, Serial D9M-D9F Isol Shield Cable, 6 m	L	0.1
08-06360-002	Cable, 9-way to 9-way Serial, 2 m	L	0.42
08-06360-006	Cable, 9-way to 9-way Serial, 6 m	L	0.55
08-06361-002	Cable, Serial 25-way to 25-way, 2 m	L	0.55
08-06361-006	Cable, Serial 25-way to 25-way, 6 m	L	0.83
08-06380-001	Cable, Serial 6-way to D9F	M	0.5
08-06422-001	Cable, 2110 Manpack to 3012 Modem, 1 m	L	0.46
08-06454-001	NGT™ to MICOM Interface Box	L	0.49
08-06730-001	3031 VHF/UHF to HF Crosspatch™ for NGT™	L	0.54
08-06730-002	3031 VHF/UHF to HF Crosspatch™ for 2110	L	0.59
08-06737-001	Cable, 2110v Prog 5way MIL-D9F	M	0.5
08-06738-001	Cable, charger O/P, 5way	M	0.3
08-06739-001	Tuner, SG235C 500 W PEP	B	3.5
08-06740-030	Cable, SG235C Control, 30 m	1/2B	3.0
08-06766-001	Cable, 3031 to VHF/UHF Transceiver Generic, 2 m	L	0.5
08-06786-001	Cable, 2110 Manpack to 3112 Modem, 1 m	L	0.44
08-07000-001	Envoy™ 2220 Handset	L	0.3
08-07000-002	Envoy™ 2221 Limited Keypad Handset	L	0.3
08-07007-001	3040 Main Assembly	B	5.0
08-07009-001	Battery Pack 12 V 17Ah LiFePO4	PSU	3.0

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
08-07010-006	Antenna Tuner Control Cable, 6 m	L	1.0
08-07148-001	3040 Spring	L	1.0
08-07204-001	Envoy™ 2230 Desk Console	1/2B	1.1
08-07214-001	Cable, Envoy™ USB Programming	M	0.04
08-07218-001	Envoy™ X1 2210 RF Unit	PSU	2.9
08-07218-002	Envoy™ X2 2210 RF Unit		2.9
15-00112	Complete Vehicle Installation Kit	B	2.5
15-00129	NGT™ Handset Cradle Kit	M	0.5
15-00134	NGT™ Remote Control Earth Kit for the Remote Site	L	0.5
15-00135	NGT™ Remote Control Earth Kit for the Control Site	L	0.1
15-00136	Cradle, NGT™ RF Unit Mounting/3012 HF Data Modem	B	2.3
15-00139	Cradle, 2110/2110v with Screws	B	2.5
15-00140	Cradle, 2110 with Interface Adaptor	B	3.5
15-00141	Cradle, 2110 with 9350 Interface	B	2.6
15-00143	2110 External DC for Cradle	L	0.3
15-00144	2110 External DC Vehicle Kit	1/2B	2.1
15-00145	Crosspatch™ 3031 Installation Kit	P1	0.12
15-00149	Envoy™ Handset Cradle	L	0.05
15-00158	Earth Mat for Base Whip Antenna, Ground Installations	406A	3.0
15-00159	Radial Ground Plane for Base Whip Antenna, Roof Installations	B	6.0
15-00163	Earth Stake	C	2.0
15-00164-010	19" Rack-mounting Frame for 8571 Split-site Remote Interface	A	2.0
15-00172-001	NGT™ Universal 19" Rack-mounting Tray 3RU with Blank Front Panel	F	2.0
15-00172-002	NGT™/Envoy™ Universal 19" Rack-mounting Tray 3RU, Front Panel with Speaker Grill and Mounting Holes	F	2.5
15-00173	Set of 1RU + 2RU Blank Front Panels	B	0.6
15-00176	19" Rack-mounting Frame suitable for 3020 Transceiver Supply, and 3012 or 3212 HF Data Modems	T	2.39
15-00216	Backpack, External Frame	BPK	5.5
15-00218	Backpack, Softpack	B2	2.5

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
15-00323	NVIS Antenna Kit	C	2.0
15-00403	Ant, Tuned Long Wire (2–30 MHz)	B	1.0
15-00406-001	Ant, Base Whip, Ground Mounting (9.5 m/31 ft Unloaded)	406	7.0
15-00406-002	Ant, Base Whip, Roof Mounting (9.5 m/31 ft Unloaded)	406A	7.0
15-00411-003	Ant, TFD411, 125 W, 2–30 MHz, 43 m	T	6.0
15-00411-004	Ant, TFD411, 125 W, 2–30 MHz, 34 m	T	6.0
15-00411-005	Ant, TFD411, 125 W, 2–30 MHz, 27 m	T	6.0
15-00411-011	Ant, TFD411, 1000 W, 2–30 MHz, 34 m	T	17.0
15-00411-012	Ant, TFD411, 1000 W, 2–30 MHz, 43 m	T	17.0
15-00422-012	Mast, Guyed 12 m with Erection Kit	M1, M2	47.0
15-00422-015	Mast, Guyed 15 m with Erection Kit	M3, M4	51.0
15-00446	Counterpoise 4-wire kit	M	0.5
15-00452	Ant, 3 m (10') Collapsible Whip 25 W	1/2C	1.4
15-00453	Ant, 1.5 m (5') Tape Whip 25 W	1/2C	1.3
15-00454	Ant, Long Wire and Adaptor 25 W PEP (1.6–30 MHz)	L	0.8
15-00455	Ant, Wire Dipole 25 W PEP (3–30 MHz)	1/2B	3.2
15-00456	Ant, Broadband Dipole 25 W PEP (3–30 MHz)	1/2B	3.1
15-00457	Ant, Dipole and Broadband kit 25 W PEP (2–30 MHz)	1/2B	3.8
15-00458	Ant, End-fed Broadband 25 W PEP (3–30 MHz)	1/2B	1.6
15-00459	Ant, 1.5 m (5') Knock Over Whip 25 W	1/2C	1.3
15-00462	Anchor peg	L	0.4
15-00464	Lightning Arrestor	M	0.5
15-00508	Voltage Regulator (24 V to 12 V operation 20 A)	B	1.2
15-00531	Solar Power Supply 40 W	SOLA	9.0
15-00532	Solar Power Supply 80 W	SOLA	18.0
15-00533	Solar Power Supply 240 W	533A, C	44.0
15-00573	2110 Battery Charger AC 1 A	L	0.7
15-00576	2110 Voltage Regulator (24 V to 12 V operation 7 A)	L	0.98
15-00577	2110 Solar Battery Charger	1/2B	3.0

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
15-00578	2110 Hand-powered Battery Charger	F	5.0
15-00602	Desk Console Headphones, NGT™	B	1.0
15-00649	External Speaker with 4 m Lead	M	0.4
15-00662	Morse Key for Envoy™/NGT™	L	0.5
15-00702	Cable Kit for Float Charge	L	2.0
15-00704	Vehicle Interference Suppression Kit	L	1.0
15-00711	Fuse Holder with 32 A Fuse	L	0.5
15-00712	Fuse, 32 A	M	0.5
15-00765	GPS Receiver/Antenna for VR and SRx	L	0.67
15-00766	NGT™ (VR and SRx) Desk Console	1/2B	1.5
15-00771	GPS Receiver/Antenna for ASR	L	0.64
15-02063-CD	NGT™ Transceiver System Technical Service Manual on CDROM (English)	M	0.25
15-04102-##	Reference Manual, Remote Control NGT™ Systems	L	0.5
15-04104-##	User Guide, HF Data Modem 3012	L	0.5
15-04104-CD	User Guide, HF Data Modem 3012 (English)	M	0.25
15-04125-EN	Reference Manual, Split-site Remote Control NGT™ Systems (English)	L	0.5
15-04127-##	Getting Started Guide, NGT™ Transceiver, includes Reference Manual on CDROM	L	0.5
15-04164-EN	NSP Software CD Package	M	0.25
15-04131-##	Reference Manual, High Power Amplifiers 3061/3062	L	0.5
15-04136-##	Getting Started Guide, 2110 series Manpack Transceiver, includes Reference Manual on CDROM	M	0.5
15-04137-EN	Getting Started Guide, NGT™ ASR Transceiver, includes Reference Manual on CDROM (English)	L	0.5
15-04140-##	Getting Started Guide, NGT™ SRx Transceiver, includes Reference Manual on CDROM	L	0.5
15-04142-##	Installation Handbook, Automatic Tuning Whip Antenna 9350	L	0.5
15-04146-CD	User Guide, HF Data Modem 3212 on CDROM	P4	0.3
15-04146-EN	User Guide, 3212 HF Data Modem (English)	P4	0.3

denotes language version, see page 165, *Language Support*

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
15-04148-CD	User Guide, Crosspatch™ 3031 on CDROM (English)	M	0.25
15-04148-EN	User Guide, Crosspatch™ 3031 (English)	L	0.5
15-04155-EN	Codan HF Express™ and STANAG 5066 Stack (English)	P1	0.14
15-04177-##	Envoy™ Transceiver Getting Started Guide, includes Reference Manual on CDROM	L	0.5
15-04178-CD	TPS-3250 Envoy™ Programming Software CD	M	0.25
15-10469	Opt Fan (Retro Fit)	1/2B	0.5
15-10471	NGT™ (SR and ASR) Desk Console (Retro Fit)	1/2B	1.0
15-10507	Opt Voice Encryptor (Retro Fit)	1/2B	0.5
15-10509	Opt 2 W, 2-wire (Retro Fit)	1/2B	0.5
15-10510	Opt 4 W, 4-wire (Retro Fit)	1/2B	0.5
15-60012	3040 Automatic Whip Antenna Installation Handbook, c/w Antenna Connector Sealing Kit	P4	0.2
15-60024	Desk Console Hand-held Microphone, Envoy™	M	0.22
15-60025	Desk Console Boom Microphone, Envoy™	L	0.1
15-60026	Desk Console Headset, Envoy™	PSU	1.17
15-60027	Desk Console PTT footswitch, Envoy™	M	0.26
15-60028	Desk Console Headphones, Envoy™	PSU	1.16
30-35002-006	19" 1RU Vent Panel	406A	1.0
30-35002-019	19" 4RU Vent Panel	406A	2.0
30-35002-020	Fixed Equipment Rail, 457 mm Long	406A	0.5
30-37601-002	Copper Earth Strip	M	0.5
30-38000-002	Shackle	L	0.1
39-79150-080	Ferrite Bead Clamp	P1	0.13
60-00063-501	6-way Modular Wall Mounting Socket	L	0.1
60-00098-590	Adaptor, 9-pin D Plug to 25-pin D Socket	P1	0.13
60-11163-204	Plug, UHF (RG213) W/proof	P1	0.1
60-11163-221	Plug, UHF (RG58) W/proof	P1	0.1
65-72000-012	Battery, Lead acid 12 V 90Ah (supplied dry charged)	–	18.0
65-72003	Battery, 12 V 100Ah Gelcell	–	39.0

denotes language version, see page 165, *Language Support*

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
65-72004	Battery, 12 V 185Ah Gelcell	–	65.0
67-90200	Cable, 2C IEC C7 AUS, 2 m	L	0.5
67-90201	Cable, 2C IEC C7 UK, 2 m	L	0.5
67-90202	Cable, 2C IEC C7 US, 2 m	L	0.5
67-90203	Cable, 2C IEC C7 EU, 2 m	L	0.5
67-90305	Cable, 3C Blk Mld IEC AUS, 2 m	L	0.5
67-90306	Cable, 3C Blk Mld IEC UK, 2 m	L	0.5
67-90307	Cable, 3C Blk Mld IEC US, 2 m	L	0.5
67-90308	Cable, 3C Blk Mld IEC EU, 2 m	L	0.5
67-90309	Cable, 3C Blk Mld IEC 320-UK, 2 m	L	0.5
67-90406	Cable, USB Adaptor for Memory Stick Programming		0.01
67-90800	Cable, Ethernet Crossover CAT-5E, 2 m Red	L	0.38
67-90801	Cable, Ethernet Crossover CAT-5E, 10 m Red	L	0.64
67-90802	Ethernet Straight CAT-5E Cable, 2 m Blue	L	0.38
67-90803	Ethernet Straight CAT-5E Cable, 10 m Blue	L	0.64
67-90805	Cable, Ethernet Straight CAT-5E, 100 m Blue	B	2.71
78-01012	Ant, Semi-delta (2–30 MHz, 125 W PEP)	T	6.0
78-01022	Ant, Full Delta (2–30 MHz, 125 W)	1022	30.0
78-01031	Adaptor, USB to DB-9, Serial	M	0.5
78-02007	Battery Charger AC-DC 3121	M	0.5
78-02008	Battery Charger DC-DC 3122	M	0.5
78-02012	Battery Charger AC-DC 3123	M	0.5
78-07003-010	InterNav-CHF™ GPS Tracking Software–10 User	1/2B	1.0
78-07003-025	InterNav-CHF™ GPS Tracking Software–25 User	1/2B	1.0
78-07003-050	InterNav-CHF™ GPS Tracking Software–50 User	1/2B	1.0
78-07003-100	InterNav-CHF™ GPS Tracking Software–100 User	1/2B	1.0
78-07003-990	InterNav-CHF™ GPS Tracking Software–1 User (Dealer)	1/2B	1.0
78-08000	Handset H-250/U	L	0.7
78-13016	Modem, Leased Line	1/2B	1.0
78-13035	Mast, Man-portable 6 m Tactical	T	6
78-14010	3040/3042 NVIS Antenna Kit	TUBE	2.6

SHIPPING WEIGHTS			
PART NO.	DESCRIPTION	BOX TYPE	PACKED WGHT (kg)
78-16019	Power Supply Unit, 90 to 264 V AC	L	0.2
78-16042	Sealevel PCI Synchronous Serial Card	L	0.39
78-18058	Riser, fibreglass	TUBE	2.0
78-23007-003	9350 Fibreglass Whip, 1.6 m	NV	0.5
78-23025	9350 Tapered Stainless Steel Whip, 1.2 m	NV	0.2
78-23056	9350 Tapered Stainless Steel Whip, 1.65 m	NV	0.2
78-23085	3040 Fibreglass Whip, 1.6 m	TUBE	1.5
78-23086	3040 Stainless Steel Whip	TUBE	1.5

NOTE 1: All weights shown are **net packed weights** calculated to the nearest 0.5 kg.

NOTE 2: In a number of instances accessories will be packed together or with the main equipment resulting in a reduction of the total published weight.

NOTE 3: Where applicable, the standard pack reference code has been given as a general guide to the overall dimensions of the carton/crate used to pack main equipment and some selected accessories. It should be noted, however, that the dimensions shown might vary from time-to-time depending on the consignment circumstances.

STANDARD PACKING DIMENSIONS		
REF CODE	DIMENSIONS	APPROXIMATE VOLUME (m ³)
A	510 x 510 x 280 mm	0.07
AA	510 x 510 x 280 mm	0.07
B	510 x 340 x 280 mm	0.05
B1	510 x 340 x 280 mm	0.05
B2	510 x 340 x 280 mm	0.04
BPK	590 x 410 x 200 mm	0.05
C	2200 x 130 x 90 mm	0.03
CMR	660 x 330 x 330 mm	0.07
D	1700 x 200 x 180 mm	0.06
E	1940 x 480 x 190 mm	0.18
F	600 x 600 x 350 mm	0.13
H	790 x 710 x 1670 mm	0.94
HPPA1	680 x 640 x 420 mm	0.18
HPPA2	680 x 640 x 420 mm	0.18
L	300 x 200 x 100 mm	0.01
M	230 x 210 x 105 mm	0.01
M1	3150 x 160 x 160 mm	0.08
M2	930 x 230 x 200 mm	0.04
M3	3150 x 160 x 160 mm	0.08
M4	930 x 230 x 200 mm	0.04
N	780 x 530 x 80 mm	0.03
NV	2200 x 125 x 90 mm	0.02
O	1200 x 530 x 80 mm	0.05
P1	150 x 220 x 0 mm	0.0
P4	240 x 370 x 0 mm	0.0
PSU	400 x 300 x 190 mm	0.02

STANDARD PACKING DIMENSIONS CONT.		
REF CODE	DIMENSIONS	APPROXIMATE VOLUME (m ³)
R	600 x 600 x 550 mm	0.20
S	170 x 170 x 70 mm	0.01
SD1	1750 x 6.0 x 6.0 mm	0.0
SD2	770 x 360 x 100 mm	0.02
SOLA	1000 x 550 x 200 mm	0.11
SYST	1040 x 520 x 300 mm	0.16
SYS1	1030 x 520 x 300 mm	0.16
SYS2	1030 x 520 x 300 mm	0.16
SYS3	1030 x 520 x 300 mm	0.16
T	800 x 300 x 250 mm	0.06
TW	600 x 550 x 400 mm	0.13
019A	1900 x 460 x 185 mm	0.16
023A	1260 x 830 x 440 mm	0.46
023B	1100 x 1110 x 390 mm	0.48
023C	4500 x 1570 x 140 mm	0.99
024A	960 x 630 x 270 mm	0.16
024B	1100 x 1110 x 390 mm	0.48
024C	4500 x 1570 x 140 mm	0.99
1/2B	311 x 231 x 243 mm	0.02
1/2C	950 x 130 x 90 mm	0.01
40W	660 x 360 x 620 mm	0.15
406	2270 x 120 x 120 mm	0.03
406A	602 x 230 x 50 mm	0.006
408L1	660 x 410 x 160 mm	0.04
408L2	1960 x 180 x 180	0.06
420/14	5200 x 260 x 260 mm	0.35
420/23	7800 x 260 x 260 mm	0.52
533A	1200 x 530 x 300 mm	0.19
1021	1260 x 830 x 470 mm	0.49
1022	910 x 285 x 205 mm	0.05

“Codan’s Standard Terms and Conditions and International Product Warranty (as updated from time to time) apply to all Orders for the supply of Products by Codan to the Purchaser.”

Dictionary

In the Standard Terms and Conditions of Supply, the words below have the following meanings:

\$ means AUD, unless specifically otherwise specified;

ACDC means the Australian Commercial Dispute Centre Limited A.C.N. 003 042

840 of Level 6, 50 Park Street, Sydney, NSW, 2000, Australia;

Agreement means the contract between Codan and The Purchaser as described in clauses 1.4 and 1.5;

Anything of Value includes cash or cash equivalents, gifts, services, employment offers, loans, travel expenses, entertainment, political contributions, charitable donations, subsidies, per diem payments, sponsorships, honoraria or provision of any other asset, even if nominal in value.

AUD means Australian dollars;

Business Day means any day except a Saturday, Sunday or public holiday in South Australia;

Calendar Day means a calendar day with periods expressed in Calendar Days subject to extension if necessary to allow for public holidays in South Australia and/or the location where the Product (if imported) is sourced as the case may be;

Catalogue means any and all catalogues of Codan products published and distributed by Codan in hard copy and electronically (including by making available for viewing through its official website) to its actual and prospective customers, setting out product details and current prices, as updated and replaced by Codan from time to time in its discretion;

Codan or Company means Codan Limited A.C.N. 007 590 605 of 81 Graves Street, Newton, South Australia, 5074, Australia;

Confidential Information means all information disclosed by Codan or The Purchaser and includes:

- (a) the fact that the parties will have, or are having, discussions, and the substance of those discussions;
- (b) financial information and other trade secrets and confidential know-how;
- (c) information regarding each party’s business; and
- (d) all information generated by the parties which is based on the information referred to in these paragraphs (a) to (c) inclusive,

but excludes information that:

- (e) the parties create or develop (whether alone or jointly with any person) independently of the Confidential Information;
- (f) is public knowledge (otherwise than as a result of a breach of confidentiality by either party or any person to whom it has disclosed the information);
- (g) is rightfully known to, or in the possession or control of either party or any of its personnel and not subject to an obligation of confidentiality in accordance with the terms of this Agreement; or
- (h) becomes available to either party from a source other than the parties and which source has the right to use and disclose and is not bound by any obligation of confidentiality in respect of the same;

Credit Limit means the AUD value of any credit facility extended by Codan to The Purchaser;

Duties means any stamp, transaction or registration duty or similar charge imposed by any Government Agency and includes, but is not limited to, any interest, fine, penalty, charge or other amount imposed but excludes any income tax;

EUR or € means the euro (the official currency of the Eurozone);

Existing Arrangements means any arrangements and agreements between Codan and The Purchaser in effect as at the date an Order is submitted, as agreed by Codan in writing;

Facilitating Payment means a payment to an individual to secure or expedite the performance of a routine government action by Government Officials;

Force Majeure Event means anything outside a party’s reasonable control including, without limitation, shortages of materials, fire, storm, flood, earthquake, explosion, accident, enemy acts, war, rebellion, insurrection, sabotage, epidemic, quarantine restriction, labour dispute, labour shortage, transportation embargo or failure or delay in transportation;

Government Agency means any government or governmental, semi governmental, administrative, fiscal or judicial body, department, commission, authority, tribunal, agency or entity;

Government Official means:

- (a) any officer or employee of a government or any department, agency or instrument of a government (including but not limited to any Government Agency);
- (b) any person acting in an official capacity for or on behalf of a government or any department, agency, or instrument of a government (including but not limited to any Government Agency);
- (c) any officer or employee of a company or business owned in whole or part by a government;
- (d) any officer or employee of a public international organisation such as the World Health Organisation or United Nations;
- (e) any officer or employee of a political party or any person acting in an official capacity on behalf of a political party; and/or
- (f) any candidate for political office;

GST has the meaning it does in section 195-1 of the GST Act;

GST Act means *A New Tax System (Goods and Services Tax) Act 1999* (Cth), as amended, varied or replaced from time to time;

Insolvency Event, in relation to The Purchaser, means any of the following events:

- (a) The Purchaser is unable to pay its creditors (or any class of them) in the ordinary course of business;
- (b) a receiver, receiver and manager, administrator, liquidator or similar officer is appointed to The Purchaser or any of its assets;
- (c) The Purchaser enters into, or resolves to enter into, a scheme of arrangement, compromise or composition with any class of creditors;
- (d) a resolution is passed or an application to a court is taken for the winding up, dissolution, official management or administration of The Purchaser; or
- (e) anything having a substantially similar effect to any of the events specified above happens under the law of any applicable jurisdiction;

Intellectual Property Rights means any and all intellectual and industrial property rights anywhere in the world, including but not limited to the rights comprised in any patent, copyright, design, trade mark, eligible layout or similar right whether at common law or conferred by statute, rights to apply for registration under a statute in respect of those or like rights and rights to protect trade secrets and know how, throughout the world for the full period of the rights and all renewals and extensions;

International Product Warranty means the warranty set out in the document on page 195, which is incorporated into and forms part of these Standard Terms and Conditions;

Order means an order for Products created as the result of The Purchaser's issue of a formal purchase order to Codan in hard copy or electronically (in a form agreed by Codan). Issuance of an Order (whether or not a Quotation is first issued by Codan) is deemed to constitute acceptance of these Standard Terms and Conditions by The Purchaser. In the event that a Quotation is issued by Codan, issuance of an Order is also deemed to constitute acceptance of the Quotation by The Purchaser;

Order Acknowledgement means Codan's written confirmation that an Order has been received from The Purchaser, and the Agreement brought into existence;

Order Value means the total price charged by Codan to The Purchaser for any Order, and including any amounts payable by The Purchaser and charged by Codan in accordance with clause 3.1;

Payment refers to and includes any direct or indirect offer to pay, promise to pay, authorisation of payment of, or transfer of, Anything of Value;

Perfected has the meaning given to that term in the PPSA;

PPSA means the *Personal Properties Securities Act 2009* (Cth) and any regulations made under it;

PPS Register means the register established under the PPSA;

Products means the products to be manufactured and/or imported by Codan for The Purchaser as listed in the Order;

Quotation or **Quote** means the quote, if any, issued by Codan to The Purchaser in respect of the Products to which these Standard Terms and Conditions of Supply are attached;

Security Agreement has the meaning given to that term in the PPSA;

Security Interest has the meaning given to that term in the PPSA;

Supply has the same meaning it does in section 9-10 of the GST Act and excludes any "GST-free supplies" and "input taxed supplies" as those terms are defined in section 195-1 of the GST Act;

Tax or Taxes means any tax, levy, charge, impost, fee, deduction, compulsory loan or withholding (including corporate tax, personal income tax, fringe benefits tax, payroll tax, withholding tax, excise and import duties, GST, consumption tax, value added tax or any other taxes, levies or charges), which is assessed, levied, imposed or collected by any Government Agency, and includes any interest, fine, penalty, charge, fee or any other amount imposed on or in respect of any such amounts;

The Purchaser means the entity requesting that Products be supplied and sold to it by Codan by the issuance of an Order, as listed in the Quotation (if applicable); and

USD means US dollars.

1. Catalogue/Credit Offers, Quotations and Agreement

- 1.1 The Purchaser acknowledges and agrees:
- (a) that the Catalogue and/or approval of a Credit Limit by Codan following a request for a credit facility received from The Purchaser in the form specified by Codan constitutes an offer by Codan to sell the Products to The Purchaser on the terms and conditions set out in these Standard Terms and Conditions of Supply, at the standard prices for the Products set by Codan which are current on the date The Purchaser submits an Order to Codan, as notified by Codan to The Purchaser (subject always to clause 2.1 below) (**Catalogue/Credit Offer**); and
 - (b) that the Catalogue/Credit Offer may be accepted by The Purchaser at any time by submitting an Order with Codan.
- 1.2 By submitting an Order in response to a Catalogue/Credit Offer, The Purchaser warrants and represents to Codan that:
- (a) it has been provided with a copy of Codan's current Product Price list and that it has reviewed this list prior to submitting the Order; and
 - (b) it has read and understood these Standard Terms and Conditions of Supply prior to submitting the Order, and agrees to be bound by them in full.
- 1.3 In addition to the Catalogue/Credit Offer, Codan may, in its discretion and following a request by The Purchaser, make an offer to The Purchaser for the sale of Products by issuing a Quotation. Unless otherwise specified in the Quotation issued by Codan to The Purchaser (if any) or agreed to in writing by Codan, all Quotations issued by Codan are valid for 30 days from the date of issue (**Acceptance Period**). The Purchaser must accept a Quotation by submitting an Order with Codan during the Acceptance Period. Any Quotation not accepted by The Purchaser during the Acceptance Period will lapse.
- 1.4 A contract between Codan and The Purchaser for the supply by Codan, and the purchase by The Purchaser, of the Products will come into existence:
- (a) in cases where a Quotation is issued by Codan, on the date The Purchaser accepts the Quotation by submitting a valid Order with Codan within the Acceptance Period; and
 - (b) in all other cases, on the date that The Purchaser submits a valid Order with Codan, in response to the Catalogue/Credit Offer.
- 1.5 Codan will determine in its sole discretion whether an Order Form has been validly completed and submitted by The Purchaser.
- 1.6 The contract will comprise:
- (a) these Standard Terms and Conditions of Supply;
 - (b) the Quotation issued by Codan, if any;
 - (c) the Product details listed in the Order; and
 - (d) the invoice issued by Codan to The Purchaser,
- to the exclusion of any other terms and conditions (including but not limited to any variations to either these Standard Terms and Conditions or the terms of the Quotation or the Catalogue/Credit Offer (as applicable) purported to be made by The Purchaser in the Order) and apart from any terms, conditions or guarantees implied or provided for by applicable law which cannot lawfully be excluded. Codan may (but is not obliged to) issue an Order Acknowledgement to The Purchaser, confirming the terms of the contract.
- 1.7 In the event of an inconsistency between any of the documents listed in clause 1.5 above, the terms of these Standard Terms and Conditions will prevail to the extent of the inconsistency, with the terms of the Quotation (if any) prevailing thereafter. To the extent of any inconsistency between the document in clause 1.6(c) and 1.6(d) above, the document described in clause 1.6(d) will prevail.
- 1.8 Neither this Agreement nor any Order that has been submitted can be cancelled by The Purchaser except with the prior written consent of Codan. Codan can cancel and terminate any Order or this Agreement in its sole discretion, without penalty, if it considers that an Order Form has not been validly completed and/or submitted by The Purchaser.

2. Prices

- 2.1 Prices specified by Codan for the Products in a Quotation or any current Product Price list issued by Codan, as applicable, are based upon the prevailing currency exchange rates generated by the Codan system. Subject to Codan deciding in its sole discretion that it would be fair and reasonable in the circumstances to do so, Codan may pass on any variation in currency exchange rates to The Purchaser in any invoice issued in accordance with clause 3.2.
- 2.2 If a Quotation has been issued by Codan, The Purchaser acknowledges that it has been prepared by Codan on the basis of, and in reliance upon, the information provided by The Purchaser, and further acknowledges that the provision of incomplete or misleading information by The Purchaser, unforeseen circumstances, misinterpretations, variations and similar events may result in charges additional to those set out in the Quotation being payable by The Purchaser for the Products. The Purchaser agrees to pay any such additional amounts to Codan, in full.
- 2.3 Unless otherwise expressly specified by Codan, all prices stated are exclusive of Product delivery costs and freight charges.

3. Payment

- 3.1 The Purchaser is solely responsible for payment of all freight, insurance, delivery costs, Taxes and other charges levied or payable in respect of the Products, unless otherwise agreed by the parties in writing.
- 3.2 Codan will invoice The Purchaser for the Order Value of the Order at any time following receipt of such Order.
- 3.3 Unless otherwise stated in the Quotation the due date for payment by The Purchaser to Codan for the Order (**Due Date**) is as follows:
- (a) 30 days from the date on which the invoice was issued, if the following conditions are satisfied at the time that the Order was submitted to Codan (i) The Purchaser has a pre-approved credit facility with Codan and (ii) the Order Value, combined with any outstanding payments due to Codan by The Purchaser at the time of the Order, fall within The Purchaser's approved Credit Limit; and
 - (b) in all other cases, payment is immediately due at the time that The Purchaser places the Order with Codan.
- 3.4 If The Purchaser fails to make any payment by the Due Date, then, without prejudice to any other right or remedy available to Codan, Codan may, in its sole discretion elect to:
- (a) suspend any further deliveries to The Purchaser arising from the Order;
 - (b) cancel the Order for Products not yet supplied to The Purchaser in whole or in part by Codan;
 - (c) enter the property of The Purchaser in order to repossess the Products;
 - (d) appoint a receiver or receiver and manager to do anything the law allows a receiver or receiver and manager to do;
 - (e) charge The Purchaser interest (both before and after any judgement) on the unpaid amount at the rate of 10% per annum until payment is made in full; and/or
 - (f) withdraw any Credit Limits or credit facilities previously approved and extended to The Purchaser.

4. Delivery

- 4.1 Unless otherwise stated in any Order Acknowledgement issued by Codan to The Purchaser, Codan will deliver the Products to The Purchaser in the manner (i) specified in the Order or (ii) if a Quotation has been issued, in the manner specified in the Quotation, regardless of what is stated in the Order submitted by The Purchaser.
- 4.2 Codan will use its reasonable endeavours to deliver the Products described in the Order on the delivery date requested by The Purchaser.
- 4.3 Risk of damage to or destruction or loss of the Products will pass to The Purchaser at the time of delivery to The Purchaser or its nominated carrier, as appropriate.
- 4.4 Notwithstanding delivery and the passing of risk in the Products, the parties acknowledge and agree that the title to, and property and ownership of, the Products supplied under this Agreement will not pass to The Purchaser until Codan has received, in cleared funds, payment in full for the Products and any other sums which are or may become due to Codan under this Agreement or any other agreement or arrangement between the parties.
- 4.5 Until such time as full title, property and ownership of the Products passes to The Purchaser in accordance with clause 4.4, and while the Products remain in The Purchaser's full control and possession:
- (a) The Purchaser must hold the Products as Codan's fiduciary agent and bailee;
 - (b) The Purchaser must keep the Products properly stored, protected and insured;
 - (c) Codan may at any time after payment is overdue require The Purchaser to deliver up the Products to Codan and, if The Purchaser fails to deliver up the Products immediately, Codan may enter the premises of The Purchaser or any third party where the Products are stored and repossess them; and
 - (d) The Purchaser must not pledge or in any way charge by way of security for any indebtedness, any of the Products which remain the property of Codan. If The Purchaser does pledge or in any way charge by way of security for any indebtedness any of the Products for which property and ownership has not passed to The Purchaser, all moneys owing by The Purchaser to Codan will (without prejudice to any other right or remedy of Codan) immediately become due and payable to Codan.

5. PPSA

- 5.1 The Purchaser acknowledges that until such time as full title, property and ownership of the Products passes to The Purchaser under clause 4.4, this Agreement constitutes a Security Agreement for the purposes of the PPSA, and Codan has a Security Interest in the Products.
- 5.2 Without limiting clause 17.6, The Purchaser agrees to do such things as Codan may require from time to time to ensure that any Security Interest of Codan arising from or connected with this Agreement is Perfected under the PPSA for whatever period Codan determines in its sole discretion, including signing documents and providing Codan with all further information required to enable Codan to register its Security Interests on the PPS Register, and to otherwise protect Codan's position under the PPSA. The Purchaser must keep Codan fully informed of all relevant information regarding it and its activities, including by providing not less than 14 days notice in writing of any proposed change in its name or contact details, and immediately advising Codan of material changes in its business activities.
- 5.3 The Purchaser agrees to indemnify Codan for all expenses incurred by Codan in registering its Security Interests on the PPS Register, and will reimburse Codan for all such expenses immediately upon demand.
- 5.4 The Purchaser waives its rights under section 157 of the PPSA to receive a notice in relation to the registration events to which section 157(3)(a) of the PPSA applies, including without limitation, the right to receive a copy of a verification statement confirming registration of a financing statement or financing change statement relating to the Security Interest created by this Agreement.
- 5.5 The Purchaser agrees that nothing in sections 118, 121(4), 125, 130, 142 or 143 of the PPSA will apply to this Agreement or any Security Interest in the Products created by this Agreement, and waives its rights to receive any of the following documents:
- (a) a notice of removal of an accession under section 95 of the PPSA;
 - (b) a notice of an intention to seize collateral under section 123 of the PPSA;
 - (c) a notice of a disposal of collateral under section 130 of the PPSA;
 - (d) a statement of account under section 132(3)(d) of the PPSA;
 - (e) a statement of account under section 132(4) of the PPSA;
 - (f) a notice of retention of collateral under section 135 of the PPSA; and
 - (g) any notice from Codan under each of the provisions listed in section 144 of the PPSA.

6. The Purchaser's Obligations

- 6.1 Codan and The Purchaser agree that The Purchaser:
- (a) is solely responsible for consideration and validation of Product designs and Product functionality, to confirm suitability for particular applications, as desired by The Purchaser;
 - (b) must advise Codan of all statutory, regulatory and other official standards and/or requirements which the Product must comply with, at the time of submitting the Order to Codan and immediately upon becoming aware of these at any other time; and
 - (c) must provide Codan with any other information which Codan may request in respect of the intended application/use of the Products.

7. Warranty

- 7.1 Codan agrees to provide the International Product Warranty in respect of the Products.
- 7.2 The International Product Warranty will not apply in the event of termination of this Agreement by Codan pursuant to clauses 12.4, 13.4 or 15.3.

8. Exclusion and Limitations of Liability

- 8.1 The Purchaser acknowledges and agrees that notwithstanding clause 4.2, any delivery dates quoted by Codan for delivery of the Products are approximate only, and will not be binding upon Codan.
- 8.2 Codan does not exclude or limit the application of any provision of any applicable statute, legislation or other regulation (including the *Competition and Consumer Act 2010* (Cth) and its Schedules and Regulations) where to do so would contravene that statute, legislation or regulation or cause any part of this clause to be void and nothing in this Agreement is to be interpreted as doing so.
- 8.3 Subject always to clause 8.2, to the extent permitted by law Codan excludes from this Agreement:
- (a) all conditions, warranties, guarantees and terms implied by statute, general law, international convention or custom, except any implied term, condition, guarantee or warranty the exclusion of which would contravene any statute or cause this clause to be void (**Non-excludable Condition**);
 - (b) all liability to The Purchaser for consequential or indirect damages arising out of or in connection with this Agreement even if Codan knew they were possible, or they were otherwise reasonably foreseeable, and including without limitation, loss of profits and damage suffered as a result of claims by any third person, such as a customer of The Purchaser; and
 - (c) all liability to The Purchaser in negligence for acts or omissions of Codan, its employees, agents and contractors arising out of or in connection with this Agreement.

- 8.4 To the extent permitted by law, Codan will not be responsible for any consequences of any modification to the Products (whether or not authorised) or for any loss, damage or claim arising from such actions. The Purchaser agrees to indemnify, defend and hold harmless Codan against any and all claims, demands, suits, causes of action, damages and legal fees (on a solicitor-own client basis) or expenses or costs whatsoever arising, directly or indirectly, from any modification of the Products, and unconditionally frees, releases and discharges Codan and its officers, agents, contractors and employees from any claim or cause of action arising in connection with such matters, to the fullest extent permitted by applicable law.
- 8.5 To the extent permitted by law, Codan will not be liable or otherwise responsible for any loss, accident, damage or injury arising in connection with The Products, or any failure of the Products to operate in the manner required by The Purchaser, whether or not caused by a defect or fault in the Products or due to Codan's negligence. The Purchaser unconditionally frees, releases and discharges Codan and its officers, agents, contractors and employees from any claim or cause of action arising in connection with the use of the Products by The Purchaser, to the fullest extent of the law.
- 8.6 To the extent permitted by law, Codan's liability to The Purchaser for breach of any Non-excludable Condition which is applicable (and other than one implied by sections 51, 52 or 53 of Schedule 2 of the *Competition and Consumer Act 2010* (Cth) is limited to any one of, at Codan's option, repairing or replacing the Products in respect of which the breach occurred, supplying equivalent products, payment of the cost of replacing the Products or acquiring equivalent products, or payment of the cost of having the Products repaired.
- 8.7 Notwithstanding anything to the contrary in this Agreement, and to the extent permitted by law, Codan's maximum liability to The Purchaser for any cause of action or claim in connection with the Products or this Agreement shall be limited to a total aggregate amount equal to the Order Value of the Order in connection with which the cause of action or claim arose.

9. Intellectual Property

- 9.1 The Purchaser expressly acknowledges and agrees that Codan is the sole proprietor and owner of all existing and future Intellectual Property Rights associated with the Products (including all modifications and improvements), and that this Agreement does not grant or transfer to it any rights to the Intellectual Property Rights associated with the Products.
- 9.2 The Purchaser must not copy, reverse engineer, improve, enhance, develop, refine, modify or otherwise alter any aspect of the Products or any Intellectual Property Rights associated with the Products, or permit or assist a third party to undertake any of these actions.
- 9.3 Notwithstanding anything to the contrary in this Agreement, The Purchaser acknowledges and agrees that Codan will own all rights in any improvements, enhancements developments, modifications or refinements to the Products or associated Intellectual Property Rights developed or created by The Purchaser, and The Purchaser will have no claim to such materials. The Purchaser agrees that it will execute, procure and deliver to Codan all assignments required to give effect to this clause 9.3, and hereby waives any and all rights to any such improvements, developments, enhancements modifications or refinements.

10. Confidentiality

- 10.1 Each party:
- (a) may use Confidential Information of the other party solely for the purposes of this Agreement;
 - (b) must keep confidential all Confidential Information of the other party; and
 - (c) may disclose Confidential Information of the other party only to (i) employees and contractors who (A) are aware and agree that the Confidential Information of the other party must be kept confidential and (B) either have a need to know (and only to the extent that each has a need to know), or have been specifically approved by the other party, or (ii) as required by law or stock exchange regulation.
- 10.2 Each party must notify the other party immediately once it becomes aware of any breach of confidentiality and must take all reasonable steps necessary to prevent further unauthorised use or disclosure of the Confidential Information.

11. Taxes and Government Charges

- 11.1 The amounts payable by The Purchaser to Codan for, or in connection with this Agreement do not include any amounts on account of Taxes and Duties. The Purchaser shall be solely liable for and shall pay, when due and payable, all Taxes and Duties which may be imposed in relation to the Products, or which is assessed or chargeable in respect of this Agreement and any associated documents or transactions.
- 11.2 The Purchaser agrees to indemnify Codan in respect of any liability for Taxes and Duties, and shall pay any Taxes and Duties notified to it by Codan immediately upon request. The Purchaser must provide Codan with all necessary tax invoices, receipts and other documentation as required by Codan in accordance with applicable laws, legislation and regulations.

- 11.3 In the case of GST payable in Australia, if applicable, The Purchaser must pay to Codan an additional amount on account of GST equal to the amounts payable by The Purchaser for the Supply multiplied by the prevailing GST rate. Notwithstanding anything to the contrary in this clause, The Purchaser is not required to pay any additional GST amount until such time as The Purchaser has been provided with a tax invoice by Codan, which is in an approved form for GST purposes.
- 11.4 The additional amounts due to Codan on account of Taxes and Duties are payable at the same time and in the same manner as the price and any other amounts payable by The Purchaser are required to be paid to Codan under this Agreement.

12. Government Approvals

- 12.1 Codan agrees, at its cost, to use its reasonable endeavours to obtain all necessary export licences, clearances and other consents and approvals from Government Agencies which are necessary for the sale and supply/export of the Products to The Purchaser. The Purchaser agrees to complete and provide to Codan any documentation required by Codan to obtain any required approvals and consents.
- 12.2 The parties agree that Codan's obligations under this Agreement are conditional upon Codan being issued all necessary export licences, clearances and other consents and approvals by the relevant Government Agencies. In the event that Codan is unable to secure all necessary licences, clearances, permits, approvals and other necessary consents from appropriate Government Agencies, Codan shall be entitled to immediately terminate this Agreement by written notice, and Codan shall not be required to supply the Products to The Purchaser. In no circumstances shall Codan be liable to The Purchaser or any other person for any loss or damage (including without limitation indirect or consequential loss or loss of profits) arising in connection with Codan's failure to obtain any necessary documentation from Government Agencies required for the sale and supply/export of the Products to The Purchaser, or the termination of this Agreement pursuant to this clause 12.2, and The Purchaser unconditionally frees, releases and discharges Codan and its officers, agents, contractors and employees from any claim or cause of action arising in connection with Codan's failure to obtain any export licence, clearances and other necessary consents and approvals from appropriate Government Agencies.
- 12.3 The Purchaser is solely responsible, at its sole cost and expense, for ensuring that the Products meet the requirements of any country into which they are imported, and must obtain and maintain any necessary import licences and permits, and all other clearances and consents from Government Agencies required for the acquisition and use of the Products by The Purchaser (including but not limited to customs approvals and clearances). Codan shall supply The Purchaser with any documents reasonably requested by The Purchaser for the purposes of complying with its obligations under this clause 12.3.
- 12.4 Codan may at any time require that The Purchaser supply it with copies of licences, permits, clearances and approvals issued by Government Agencies and obtained by The Purchaser as required by clause 12.3, and The Purchaser agrees to immediately comply with any such request. If at any time Codan becomes aware that The Purchaser has failed to comply with its obligations under clause 12.3, it may immediately terminate this Agreement by written notice, and all outstanding amounts shall become immediately due and payable by The Purchaser. The Purchaser agrees to indemnify, defend and hold harmless Codan against any and all claims, demands, suits, causes of action, damages and legal fees (on a solicitor own client basis) or expenses or costs whatsoever arising, directly or indirectly, from any failure by The Purchaser to comply with its obligations under clauses 12.3 or 12.4.

13. Anti-Bribery and Corruption Requirements

- 13.1 It is a material term of this Agreement that The Purchaser must comply with the following:
- (a) The Purchaser must comply fully at all times with all applicable laws and regulations, including but not limited to applicable anti-corruption laws of the territory in which The Purchaser conducts business with Codan.
 - (b) The Purchaser must not, and covenants that it will not, in connection with the performance of this Agreement, directly or indirectly promise, authorise, ratify, offer to make or make, or take any action, in furtherance of any Payment of Anything of Value to any individual, or to an intermediary for payment to any individual, including a Government Official, for the purpose of influencing or inducing or as a reward for any act, omission or decision to secure an improper advantage or to improperly assist The Purchaser or Codan in obtaining or retaining business.
 - (c) The Purchaser must not, and covenants that it will not, in connection with the performance of this Agreement, directly or indirectly promise, authorise, ratify or offer to make or make any Facilitating Payment to any individual, or to an intermediary for payment to any individual, including a Government Official.
 - (d) The Purchaser must not contact, or otherwise meet with any Government Official with respect to any transactions required under this Agreement, without the prior written approval of Codan and, when requested by Codan, only in the presence of a Codan designated representative.

- (e) The Purchaser represents that it has not been convicted of or pleaded guilty to a criminal offence, involving fraud or corruption; that it is not now, to the best of its knowledge, the subject of any government investigation for such offences, and that it is not now listed by any government agency as debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for government procurement programs.
 - (f) The Purchaser represents and warrants that except as disclosed in writing:
 - (i) it does not have any interest which directly or indirectly conflicts with its proper and ethical performance of this Agreement; and
 - (ii) it will maintain arms length relations with all third parties (including Government Officials) with which it deals for or on behalf of Codan or in the performance of this Agreement.
- 13.2 The Purchaser agrees that Codan may make full disclosure of information relating to a possible violation of the terms of this clause 13 at any time and for any reason to any competent government bodies and its agencies (including Government Agencies), and to whomsoever Codan determines in good faith has a legitimate need to know.
- 13.3 Codan will be entitled to terminate this Agreement (without payment of compensation to The Purchaser) immediately on written notice to The Purchaser, if The Purchaser fails to perform its obligations in accordance with the terms of this clause 13. Codan will not be responsible or liable for any loss or damages whatsoever arising from or in connection with this clause 13, whether sustained by The Purchaser or any other party.

14. Insurance

- 14.1 The Purchaser must take out and maintain at all times, with reputable insurers, valid and enforceable insurance policies in respect of the following:
- (a) product and public liability insurance, for an amount not less than \$10 million per incident or event;
 - (b) all necessary statutory workers compensation insurance; and
 - (c) such other risks that a reasonable, prudent person carrying on the business of The Purchaser would be likely to insure against.

15. Termination

- 15.1 Codan may terminate this Agreement with immediate effect by written notice to The Purchaser if:
- (a) The Purchaser is the subject of an Insolvency Event; or
 - (b) at the time of termination, a Force Majeure Event has persisted for greater than 40 Business Days.
- 15.2 The Purchaser may terminate this Agreement with immediate effect by written notice to Codan if Codan breaches any material term of this Agreement, which is capable of remedy, and fails to remedy the breach within 20 Business Days after receiving a notice requiring it to do so.
- 15.3 Without limiting Codan's other rights under this Agreement, Codan may terminate this Agreement with immediate effect by written notice to The Purchaser if:
- (a) The Purchaser breaches any term of this Agreement, which is capable of remedy, and fails to remedy the breach within 20 Business Days after receiving a notice requiring it to do so;
 - (b) The Purchaser breaches any term of this Agreement and such breach is not capable of remedy; or
 - (c) The Purchaser repeatedly breaches any term of this Agreement and, within 20 Business Days after receiving a notice requiring it to do so, fails to satisfy Codan that a breach of that term will not recur.
- 15.4 Termination of this Agreement will not affect any accrued rights or remedies a party may have as at the date of termination, unless explicitly stated otherwise in this Agreement.

16. Dispute Resolution

- 16.1 A party will not commence arbitration or court proceedings (except proceedings seeking interlocutory relief) in respect of a dispute arising out of this Agreement (**Dispute**) unless it has complied with this clause.
- 16.2 A party claiming that a Dispute has arisen will notify the other party of the Dispute in writing.
- 16.3 Each party to the Dispute will ensure that during the 30 Calendar Day period after a notice is given under clause 16.2 (or a longer period agreed between the parties) the chief executive officers (or equivalents) of the parties will use their best reasonable endeavours to resolve the dispute in good faith.
- 16.4 If after fourteen (14) days the parties are unable to resolve the Dispute under clause 16.3, the parties will attempt to settle the dispute by mediation conducted in accordance with the Commercial Mediation Guidelines of the ACDC.
- 16.5 The parties shall attempt to agree on the appointment of a mediator for the purposes of mediation of the Dispute pursuant to clause 16.4, and if the parties cannot agree on the identity of a mediator within seven (7) Calendar Days, the mediator will be appointed by ACDC within seven (7) Calendar Days thereafter. Mediation will be held within seven (7) Calendar Days of the appointment of the mediator.
- 16.6 Each party will bear its own costs of resolving a Dispute under this clause 16, and will bear equally the costs of any mediator required to be engaged.

- 16.7 If mediation does not proceed within the timetable set out in clauses 16.4 and 16.5, or is not successful in resolving the Dispute, the parties will be entitled to terminate the Dispute resolution process by giving notice in writing to all other parties and commence arbitration or court proceedings in respect of the Dispute. Nothing in this clause 16 prevents a party from seeking urgent interlocutory relief.
- 16.8 Nothing in this clause 16 prevents or limits The Purchaser from exercising its rights and requiring remedies from Codan in respect of a breach of a Non-Excludable Condition (subject always to clause 8 above).

17. Miscellaneous

- 17.1 *Interpretation* – In these Standard Terms and Conditions of Supply:
- (a) the singular includes the plural and vice versa;
 - (b) the word person includes a firm, a body corporate, an unincorporated association, body or organisation established pursuant to international treaty, intergovernmental body, or government authority and other official authority;
 - (c) a reference to a document or legislation includes a reference to that document or legislation as varied, amended, novated or replaced from time to time;
 - (d) a reference to a person includes a reference to the person's executors, administrators, successors, substitutes (including, but not limited to, persons taking by novation) and permitted assigns; and
 - (e) headings are inserted for convenience and do not affect the interpretation of these Standard Terms and Conditions of Supply.
- 17.2 *Survival* – The provisions of clauses 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 16 and 17 of these Standard Terms and Conditions of Supply survive the expiry or termination of this Agreement.
- 17.3 *Force Majeure* – If a Force Majeure Event precludes Codan from partially or wholly complying with its obligations under this Agreement then:
- (a) as soon as reasonably practicable after that Force Majeure Event arises, Codan must notify The Purchaser of the Force Majeure Event, and Codan's obligation to perform in accordance with this Agreement will be suspended for the duration of the actual delay arising directly out of the Force Majeure Event or 40 Business Days, whichever is shorter, provided that Codan does everything reasonably possible to mitigate the effects of the Force Majeure Event.
 - (b) If a Force Majeure Event persists for greater than 40 Business Days, Codan shall be entitled to terminate this Agreement in accordance with clause 15.1(b).
- 17.4 *Governing Law* – This Agreement will be governed by and construed in accordance with the laws applicable in South Australia. The parties submit to the exclusive jurisdiction of the courts of South Australia in respect of matters arising out of or in connection with this Agreement (including Disputes). The parties agree that the *United Nations Convention on Contracts for the International Sale of Goods* (adopted at Vienna, Austria on 10 April 1980) (including as incorporated into South Australian law by the *Sale of Goods (Vienna Convention) Act 1986 (SA)*) will not apply to this Agreement.
- 17.5 *No Assignment* – The Purchaser must not assign or otherwise deal with its rights and obligations under this Agreement without the prior written approval of Codan, to be provided by Codan in its reasonable discretion.
- 17.6 *Further Action* – Each party must (a) do all acts necessary or desirable to give full effect to this Agreement, and (b) refrain from doing anything which might prevent full effect being given to this Agreement.
- 17.7 *Variation* – A variation or modification of this Agreement must be in writing and signed by an authorised representative of each party.
- 17.8 *Severability* – If any provision of this Agreement is held by any competent authority to be invalid or unenforceable in whole or in part the validity of the other provisions of this Agreement and the remainder of the provision in question will not be affected.
- 17.9 *No Waiver* – No waiver by a party of any breach of this Agreement by another party shall be considered as a waiver of any subsequent breach of the same or any other provisions.
- 17.10 *Entire Agreement* – This Agreement constitutes the entire agreement between the parties about its subject matter (without limiting clause 8.2 in any way) and subject to the remainder of this clause, supersedes all previous representations, understandings and agreements in connection with that subject matter. This Agreement overrides any terms for the sale and supply of Products tendered to Codan by The Purchaser, irrespective of whether such terms are tendered before or subsequent to the date of the Order. However, the parties agree that the Existing Arrangements continue in full force and effect, and that nothing in this document supersedes, alters or otherwise affects the Existing Arrangements. In the event of an inconsistency between the obligations of the Parties under this Agreement and any Existing Arrangements, the Existing Arrangements prevail to the extent necessary.
- 17.11 *Relationship* – The relationship between the parties is and will remain that of independent contractors, and nothing in this document constitutes the parties as partners or joint venturers or constitutes any party as the agent of another party or gives rise to any other form of fiduciary relationship between the parties.
- 17.12 *Notices* – Notices by a party must be delivered by (i) prepaid post (ii) facsimile or (iii) hand, and sent to the address of the receiving party specified in the Order. Notices shall be deemed to have been received by hand upon delivery, by post within two (2) Business Days of sending and by facsimile upon receipt of a successful transmission report.

1. In this document:
 - (a) **ACL** means the Australian Consumer Law as set out in Schedule 2 of the Australian *Competition and Consumer Act 2010* (Cth);
 - (b) **Codan** means Codan Limited A.C.N. 007 590 605 of 81 Graves Street, Newton, South Australia, 5074, Australia (Ph: +61 (8) 8305 0311);
 - (c) **Codan Products** means, with the exception of LMR Products, all Codan products manufactured by or on behalf of Codan;
 - (d) **LMR Products** means all Land Mobile Radio products manufactured in Canada;
 - (e) **Material** means a material or component used by Codan in the manufacture of Warranted Products;
 - (f) **Warranted Products** means the Codan Products and the LMR Products;
 - (g) **Warranty Period** means:
 - i) for Codan products, a period of three (3) years from the date of shipment to the purchaser; and
 - ii) for LMR Products, a period of two (2) years from the date of shipment to the purchaser; and
 - (h) **Workmanship** means the handling, assembly and manufacturing processes performed by or on behalf of Codan in order to manufacture Codan Warranted Products.
2. **Codan warrants that for the duration of the Warranty Period, all Warranted Products will be free of faults arising from defects in design, Workmanship or Materials, on the terms and conditions set out in this document.**
3. Should any fault due to bad design, Workmanship or Materials be proven in Warranted Products acquired by the purchaser at any time within the prescribed Warranty Period, Codan will, subject to the terms of this document as set out below, remedy such fault free of charge provided the Warranted Products are returned to Codan or to a service centre authorised by Codan.
4. All Warranted Products returned for warranty repair must be sent to 81 Graves Street, Newton, South Australia, 5074, Australia if returned to Codan, and if returned to a service centre authorised by Codan must be sent to the address for the service centre as listed on Codan's website. The purchaser is responsible for all freight, insurance, taxes, duties and any costs of returning the Warranted Products to Codan or a service centre authorised by Codan for warranty repairs. Codan is only responsible for the freight costs of returning the repaired Warranted Products to the purchaser.
5. All Warranted Products returned for warranty repair must have a valid Return Material Authorisation (**RMA**) number issued by Codan or a Codan authorised service centre prior to return by the purchaser. This RMA number must be clearly indicated and marked on all documentation and packaging by the purchaser when returning the Warranted Products in accordance with item 4 of this document.
6. This express warranty shall not extend to damage of Warranted Products during transit or transportation, or any abuse, accident or improper installation, connection, adjustment, repair or use of goods otherwise than in accordance with instructions issued by Codan. This express warranty does not apply to any Warranted Products in respect of which the serial number has been altered, defaced or removed.
7. This express warranty is incorporated into, and forms part of, Codan's Standard Terms and Conditions of Supply. Accordingly, it is subject to the terms of Codan's Standard Terms and Conditions of Supply, including but not limited to clauses 8.2 - 8.7.
8. Subject to the matters set out in this express warranty, and to the full extent permitted by law, no liability (whether expressed or implied) of any nature whatsoever, is accepted by Codan for any consequential loss, damage or injury arising as a result of any fault in the Warranted Products.
9. This express warranty does not extend to goods supplied by Codan which are not designed or manufactured by or on behalf of it. Some goods supplied but not manufactured by or on behalf of Codan, or Materials manufactured by third parties which are used in Warranted Products, benefit from specific warranties provided by their manufacturers. Codan will make reasonable endeavours to ensure that the purchaser receives the full benefit of any warranty given by the manufacturer in respect of goods supplied but not manufactured by or on behalf of Codan, and Materials manufactured by third parties. To the extent permitted by law, such action will be the sole remedy available to the purchaser in respect of any faulty or defective goods or Materials not manufactured by or on behalf of Codan.
10. This express warranty is valid for Warranted Products purchased from Codan anywhere in the world. Warranty service will be provided in accordance with this express warranty in any country of the world where there is a service centre authorised by Codan.
11. The benefits conferred by this express warranty are in addition to all other non-excludable rights and remedies which the purchaser may have under the ACL and any similar laws in Australia or elsewhere.
12. To the extent permitted by law, Codan's liability for any non-excludable term, condition, guarantee or warranty applicable under the ACL or its equivalents is limited to (at Codan's option):
 - (a) In the case of goods – repairing, replacing or supplying equivalent goods, or paying the cost of any of those remedies to the purchaser; or
 - (b) In the case of services – supplying the services again or paying the cost of having the services supplied again.

13. Codan provides the following advice to all purchasers who are consumers as defined by the ACL and to whom the ACL applies, as required by the ACL:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

SALES OFFICE LOCATIONS



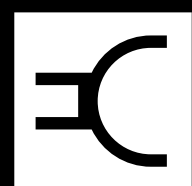
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Note that all specifications in this document are subject to change.



CODAN
RADIO COMMUNICATIONS