Emergency Relief Items

Compendium of Generic Specifications

Volume 1

Telecommunications,
Shelter & Housing, Water Supply,
Food, Sanitation & Hygiene,
Materials Handling, Power Supply

October 1998

Inmarsat approved Standard A

Areas of use: An office installed Inmarsat Standard A to provide voice, telex, telefax and data between the terminal and the international telecommunication networks.

To Include: Inmarsat A transceiver with built-in control keyboard, built-in control display and telephone handset.
Built-in telex or lap-top with printer and software used as telex.
Parabolic dish antenna with wall brackets, visual and/or acoustic signal strength indicator (to facilitate positioning of antenna).
Operating and service manual, dual identity number.
Power cable, min. 5 mtrs extension low-loss antenna cable and interconnecting cables.
DC/AC 12/220 V inverter (inverting output rating: sufficient to power the STD A terminal and a connected fax machine).

Standard channels:

Telex:	50 baud 66 word per minute.
Voice:	9.6 kbits/s.
Fax:	9.6 kbits/s (uncompanded channel).
Data:	9.6 kbits/s (uncompanded channel).
HSD:	Simplex 56 or 64 kbits/s.

Options: Duplex HSD transfer both 56 and 64 kbit/s.

Interfaces: RJ 11 for connecting a second telephone or a fax.
RS 232 Hayes compatible, for connecting modem, printer or lab-top computer.

Environment:

Operating temperature:	Antenna	-25º to +55º C.
	Electronic	0º to +45º C.
Relative humidity:	Antenna	95 % at 40º C.
	Electronics	85 % at 40º C.

Antenna and outdoor unit must be weather proof.

Power supply:
90-240 Vac, 50-60 Hz single phase.

Accessories:
10-150 meters extension low-loss antenna cable.
Lap-top computer.
Printer.
Fax machine.

Inmarsat approved Standard B

Areas of use: An office installed Inmarsat Standard B to provide voice, telex, telefax and data between the terminal and the international telecommunication networks.

To Include: Inmarsat B transceiver with built-in control keyboard, built-in control display and telephone handset.
Built-in telex or lap-top with printer and software used as telex.
Parabolic dish antenna with wall brackets, visual and/or acoustic signal strength indicator (to facilitate positioning of antenna).
Operating and service manual, dual identity number.
Power cable, min. 5 mtrs extension low-loss antenna cable and interconnecting cables.
DC/AC 12/220 V inverter (inverting output rating: sufficient to power the STD B terminal and a connected fax machine).

Standard channels:

Telex:	50 baud 66 word per minute.
Voice:	16 kbits/s with voice coding.
Fax:	9.6 kbits/s, CCITT G3 standard.
Data:	9.6 kbits/s.
HSD:	Simplex 56 or 64 kbits/s.

Options: Duplex HSD transfer both 56 and 64 kbit/s.

Interfaces: RJ 11 for connecting a second telephone or a fax.
RS 232 Hayes compatible, for connecting modem, printer or lab-top computer.

Environment:

Operating temperature:	Antenna	-25º to +55º C.
	Electronic	0º to +45º C.
Relative humidity:	Antenna	95 % at 40º C.
	Electronics	85 % at 40º C.

Antenna and outdoor unit must be weather proof.

Power supply:

90-240 Vac, 50-60 Hz single phase.

Accessories:

10-150 meters extension low-loss antenna cable.
Lap-top computer.
Printer.
Fax machine.

INMARSAT approved STANDARD C

Area of use: A Land-mobile Inmarsat C to provide access to the international telex, data and other networks and to transmit data files.

To include: Inmarsat C transceiver with built-in control keyboard and built-in control display.
Built-in telex or lap-top with printer and software used as telex.
Omnidirectional antenna.
Built-in battery.
Inmarsat C transceiver must support 2-way telex- and data transfer in addition to 1 way compressed telex, X25, PSTN (sending text to a telefax) and E-mail facilities.
Operating and service manual.
Antenna cable and interconnecting cables.

Standard channels:

Telex:	50 baud 66 word per minute.
Data:	600 bit/s.

Interfaces:

RS 232 printer port.
RS 232 data port.

Environment:

Operating temperature:	Electronic	-25°C to +55°C.
	Antenna	-35°C to +55°C.
Relative humidity:		95% 40°C.

Antenna unit must be weather proof.

Power supply:

10.5-32 VDC.

Accessories:

Data interface box and mobile printer.
GPS interface and operations package.
Automatic data and position reporting/polling.

INMARSAT approved STANDARD M

Area of use: A portable briefcase sized Inmarsat Standard M to provide voice, fax and data between the terminal and the international telecommunication networks.

To include: Inmarsat M transceiver with built-in control keyboard, built-in control display and telephone handset.
Removable antenna, visual and/or acoustic signal strength indicator (to facilitate positioning of antenna).
Built-in battery.
Power cables and interconnecting cables.
Operating and service manual and compass.

Environment:

Operating temperature:	-25°C to +55°C.
Relative humidity:	95 % at 40º C.

Antenna and unit must be weather proof.

Power supply:

10.5-32 VDC.

Channels:

Voice channel:	4.8 kbits/s.
Fax channel:	2.4 kbits/s CCITT G3 standard.
Data channel:	2.4 kbits/s.

Interfaces:

RJ 11 for connecting a second telephone or a fax.
RS 232 Hayes compatible data port.
RS 232 printer port.

Accessories:

Lap-top computer with printer.
Portable fax machine equipment.
Up to 15 meters antenna cable.
Solar panel.
Battery pack with charger.
AC/DC power supply, 90 - 240 VAC at 50/60 Hz with AC/DC connector.

INMARSAT approved STANDARD Mini M

Area of use: A portable briefcase sized Inmarsat Standard Mini M to provide voice, fax and data between the terminal and the international telecommunication networks.

To include: Inmarsat Mini M transceiver with built-in control keyboard, built-in control display and telephone handset.
Removable antenna, visual and/or acoustic signal strength indicator (to facilitate positioning of antenna).
Built-in battery.
Antenna cables and interconnecting cables.
Operating and service manual and compass.
SIM card facilities.

Environment:

Operating temperature:	-25°C to +50°C.
Relative humidity:	95 % at 40º C.

Antenna and unit must be weather proof.

Power supply:

10-32 VDC.

Channels:

Voice channel:	4.8 kbits/s.
Fax channel:	2.4 kbits/s CCITT G3 standard.
Data channel:	2.4 kbits/s.

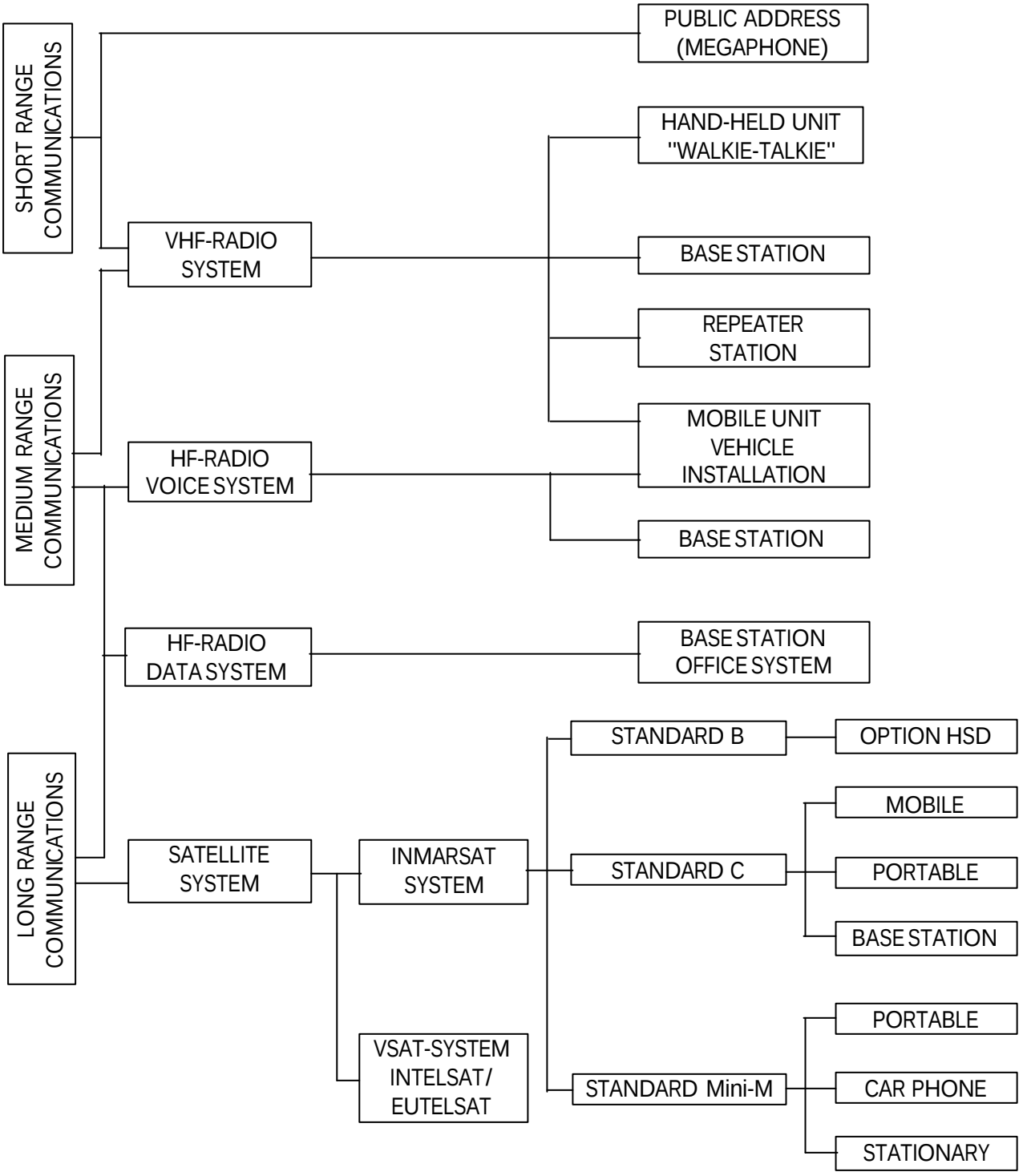
Interfaces:

RJ 11 for connecting a second telephone or a fax.
RS 232 Hayes compatible data port.
RS 232 printer port.

Accessories:

Lap-top computer with printer.
Portable fax machine equipment.
Up to 15 meters antenna cable.
Solar panel.
Battery pack with charger.
AC/DC power supply, 90 - 240 VAC at 50/60 Hz with AC/DC connector.

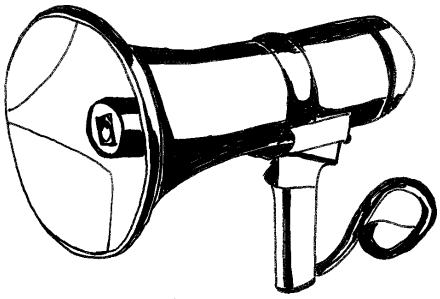
• Schematic diagram showing communications systems for emergency operations



Type	Range	Size/Weight	Cost	Remarks
VHF (Voice)	3 - 25 km (line-of-sight)	Hand-held or mobile unit VHF Kit: 6 hand-held & 2 mobile/base units weight: 48 kg	400 - 700 USD per unit 12,000 USD per set	For on-site co-ordination and individual communications for safety and security of field personnel. Range depends on terrain and is larger for mobile/fixed stations than for hand-held units.
VHF (with repeater)	10 - 50 km	Repeater: 10 kg	Units as above Repeater 3000 USD	Repeater increases the range of VHF communications, particularly in urban and mountainous territories. Repeater needs to be installed in a high location (hill, building) and by a qualified technician.
HF (Voice)	Regional to world-wide	Portable: 10 kg Fixed: 20 kg	4,000 USD per station no fees	Commonly used for regional communications, 50 to 1,000 km, no communications fees unless used for phone through commercial land-stations.
HF (teletype)	Regional to world-wide	Fixed: 25 kg	7,000 USD per station no fees	Reliable teletype (sitor) provides links world wide. Requires a qualified operator. No communications fees unless messages are routed through commercial land-stations.
Satellite Inmarsat B	World-wide Phone/Fax (Telex/Data)	Suitcase set: 25 kg	17,500 USD per station fees approx. 3 USD/Min (Mobile -Fixed)	Full phone, fax and telex capability, high speed Data (up to 64 kbits/s). Is expected to replace Inmarsat A by the year 2000. Ideal for multi-user environment when local communications networks down or inexistent.
Satellite Inmarsat C	World-wide Telex/Data	Suitcase set: 20 kg	7,500 USD per station fees similar to telex, but calculated per kbyte, not per minute. 0.80 USD / kbit	Sends messages to any telex or fax machine, receives messages from any telex machine or C terminal. Can send and receive data (ASCII files). Storage-and-forward only, no dialogue possible.
Satellite Inmarsat Mini-M	World-wide Phone (Fax/Data)	Attache-case set: 5 - 10 kg	2,500 USD per station fees approx. 2,5 USD/Min (Mobile -Fixed)	Narrow bandwidth digital voice communication over international phone network. Data and fax transmission possible, although relatively slow (2400 bps). Equipment easy to install and light weight.
Satellite VSAT	World-wide Phone/Fax Data/Video	Depending on model Antenna normally 1.8 m in diameter	30,000 USD per station fees approx. 5,000 USD per month	The VSAT system provides telephone, fax, high speed data transfer (up to several mega bits/s), an ideal communication tool if high speed data transfer is needed. However, terminals need to be designed per the specific needs.

MEGAPHONE, HAND-GRIP TYPE

Shipping weight: 1 kg
Shipping volume: 0.03 m^3
UNCCS Code: 472341



Type:
- Handheld with built-in microphone volume control and alarm switch in handgrip.
- Suited for small group of people (20-30 persons).

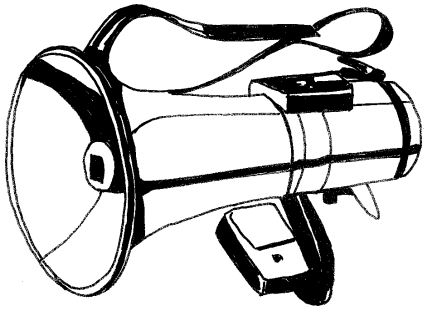
Technical Specifications:
- Audible Range: City areas - 250 m (min).
  Suburban - 800 m (min).
- Output power: 6 - 10 W.
- Power source: 12 VDC.

Accessories required:
- Batteries, size "AA", 8 pieces.

Quality Requirements:
- Conforms to International/National Standards.

MEGAPHONE, SHOULDER TYPE

Shipping weight: 1.5 kg
Shipping volume: 0.04 m^3
UNCCS Code: 472342



Type:
- External input connection to microphone, tape recorder or recorder or record player.
- Handheld microphone with on/off switch and built-in volume control.

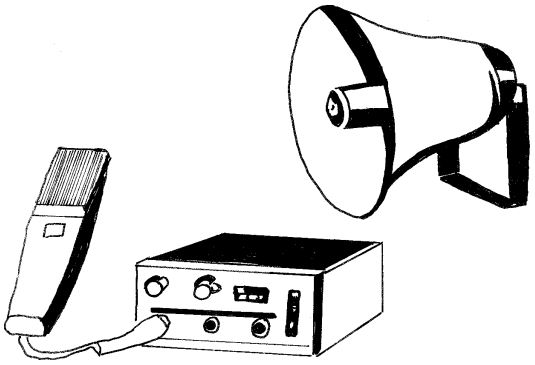
Technical Specifications:
- Audible range: City areas - 400 m (min).
  Suburban - 1.3 km (min).
- Output power: 10 - 16 w.
- Power source: 12 VDC.

Accessories required:
- Batteries, size "C", 8 pieces.

Quality Requirements:
- Conforms to International/National Standards.

PUBLIC ADDRESS (PA) SET, MOBILE

Shipping weight: **3.5 kg**
Shipping volume: **0.1 m^3**
UNCCS Code: **472352**



Type:

- Mobile (vehicle mounted) PA - amplifier with hand-held microphone and two horn speakers for outside vehicle mounting, including cables.

Technical Specifications:

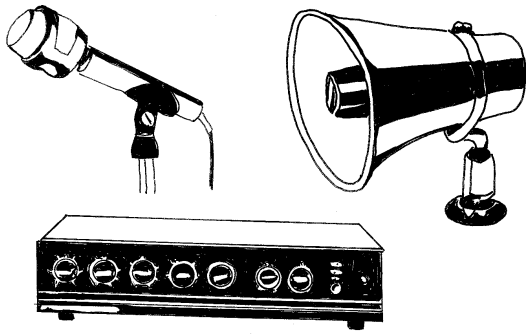
- Output power: 10 - 15 W or 20 - 30 W
- Power source: 12 VDC

Quality Requirements:

- Conforms to International/National Standards.

PUBLIC ADDRESS (PA) SET, FIXED INSTALLATION

Shipping weight: **20 kg**
Shipping volume: **0.3m^3**
UNCCS Code: **472353**



Type:

- Desktop PA-amplifier with connections for microphone, speakers, tape recorders or record player. Suited for indoor or outdoor groups of people up to approx. 750 persons.

Technical Specifications:

- Output power: Minimum 60 W (Rated.)
- Power supply: 110 / 220 VAC 50/60 Hz and 24 VDC (battery operation).
- Speakers: Minimum two pieces directional reflex horns with driver units and extension cables.
- Microphone: Dynamic type microphone with extension cables.

Quality Requirements:

- Conforms to International/National Standards.

TRANSCEIVER, HANDHELD

Shipping weight:	**Approx. 0.5 kg**
Shipping volume:	**Approx.50x150x130mm**
UNCCS Code:	**467651**

Use:

- Communication between individuals and/or base, within "line of sight" and maximum 10 km depending on the terrain.

Description:

- Portable VHF - FM Transceiver, compact, light weight, microprocessor controlled, housed in rugged casing, rubber antenna & CTCSS control unit built-in.

Technical Specifications:

- **Frequency range:**
  VHF: must include 154 - 166 MHz.

- **Channel:** Minimum 6 programmable memory channels.
- **Channel spread:** Minimum 10 MHz.
- **Channel spacing:** 25 kHz.

- **Receiver sensitivity:**
  Better than 0.35µV at 12 dB/SINAD.

- **Power Output:**
  Selectable high/low (on high minimum 2 W).

- **Power supply:**
  7.2 V or 12 V Ni-Cd batteries (rechargeable), min. 600 mAh.

- **Standard accessories:**
  - Spare battery.
  - 110 - 220 VAC rapid charger with automatic charging control.
  - 5 tone selective call-paging.
  - Equipment for programming.
  - Belt clip.

Optional accessories:

- Mobile DC adapter/charger.
- Speaker/microphone.

Quality Requirements:

- Conforms to International/National Standards.

TRANSCEIVER, BASE STATION

Shipping weight:	**Approx. 1.5 kg**
Shipping volume:	**Approx.140x40x175mm**
UNCCS Code:	**467653**

TRANSCEIVER

Use:

- Communication in a local area up to approx. 50 km depending on the terrain.

Description:

- VHF-FM transceiver of rugged construction, synthesized, selective channel scanning, and a built-in CTCSS controller.

Technical Specifications:

- Frequency range: Must include 154 - 166 MHz.
- Channels: Minimum 8, programmable.
- Channel spread: Minimum between 154 - 166 MHz.
- Channel spacing: 5 or 12.5 or 25 kHz.
- Receiver sensitivity: Better than 0.35µV at 12 dB/SINAD.
- Power output: Minimum 25 W.
- Power supply: 12 VDC.

Options:

- Equipment for field programming.
- 5-tone selective call.

BASE STATION ANTENNA

- Frequency range: 146 - 174 MHz, adjustable.
- Gain: Minimum 5 dB.

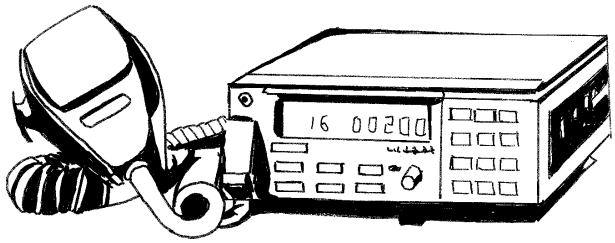
- Fitted with lowloss coaxial cable (less than 5 dB/100 m at 150 MHz) with necessary connectors.

Quality Requirements:

- Conforms to International/National Standards.

TRANSCEIVER, VEHICLE

Shipping weight:	**Approx. 1.5 kg**
Shipping volume:	**Approx.140x40x175mm**
UNCCS Code:	**467652**



TRANSCEIVER

Use:

- Communication in a local area up to approx. 50 km depending on the terrain.

Description:

- VHF-FM transceiver of rugged construction, synthesized and selective channel scanning, including brackets and other vehicle installation, CTCSS control unit built-in.

Technical specifications:

- Frequency range: Must include 154 - 166 MHz.
- Channels: Minimum 8, programmable.
- Channel spread: Minimum 10 MHz.
- Channel spacing: 25 kHz.
- Receiver sensitivity: Better than 0.35µV at 12 dB/SINAD.
- Power output: Minimum 25 W.
- Power supply: 12 VDC.

Options:

- 5-tone selective encoder.
- Equipment for field programming.

VEHICLE ANTENNA

- Frequency range: 146 - 174 MHz, adjustable.
- Gain: Minimum 3 dB.
  Fitted with 5 m coaxial cable RG - 58 and PL - 259.

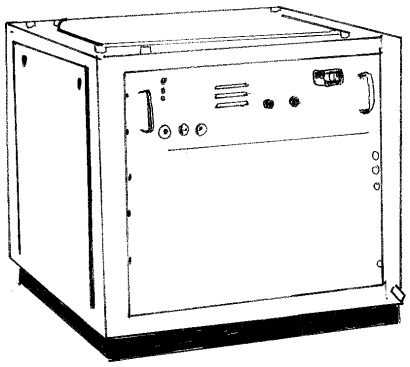
Quality Requirements:

- Conforms to International/National Standards.

Note: *In some vehicles it is easier to install the antenna on the rooftop rather than on the side - and in this case the antenna should be of a size that avoids contact with low hanging power lines and tree branches.*

REPEATER STATION

Shipping weight:	**Approx. 20 kg**
Shipping volume:	**Approx.480x150x400mm**
UNCCS Code:	**467683**



Use:

- To increase the range and capabilility of handheld VHF equipment up to approx. 50 km and the other VHF equipment to approx. 60 km depending on the terrain.

Description:

- VHF repeater in rugged construction preferably with CTCSS decoder and duplexer.

Technical Specifications:

- Frequency range: 154 - 166 MHz (preferable).
- Channel frequencies: Factory aligned to specified transmission and. reception frequencies.
- Channel spacing: 25 kHz.
- Frequency seperation: 4.6 to 5.5 MHz.

- Power output: Minimum 10 W.
- Power supply: 110 - 230 VAC.
  12 VDC with automatic switching.

- Antenna: Base station antenna, to match programmed. transmission frequency.
  Gain: Minimum 5 dB.

Options:

- Power amplifier.
- Time-limiter.
- Battery charger, 12 V, 10 A.
- Heavy duty battery 12 V / 100 Ah.

Accessories:

- Equipment for field programming.

Quality Requirements:

- Conforms to International/National Standards.

Note: *Antenna should be specified according to frequencies to be used.*

VHF FIELD KIT

Shipping weight:	**10 kg**
Shipping volume:	**0.1 m^3**
UNCCS Code:	**467685**

Type: VHF field kit

To be included:

- 6 handheld VHF transceivers conforming to the specifications for UNCCS 467651, but with only one programming unit (including software).
- 2 mobile / base VHF transceivers conforming to the specifications for UNCCS 467652, but with only one programming unit.
- 2 mobile antennae with magnetic mount including 2 x 6 metre cable RG-58 and 4 adaptor plugs for handheld transceiver.
- 2 base station antennae modified to reduce packing size below 50 cm including 2x20 metre cable RG-58 and plugs.
- 2 adapters for cigarette lighters in car for handheld VHF tranceivers, cable attached to adaptor.
- 1 AC distributer for 6 chargers and adaptor set.
- 1 instruction and service manual for the handheld and mobile transceivers and for the programming units.
- 1 waterproof aluminium transport box for storage of telecommunications items as below.
- 1 set of field programming equipment for handheld VHF transceivers.
- 1 set of field programming equipment for mobile/base VHF transceivers.

The individual items in the kit are stored in four layers in the transport box, each of which contains a specific group of material:

Top layer:

- 6 handheld VHF transceivers.

Second layer:

- 6 battery chargers.

Third layer:

- 2 mobile antennae with magnetic mount and 2 base antennae, cables and adaptors.

Bottom layer:

- 2 VHF transceivers with higher power and equipment to programme additional channels on all transceivers.

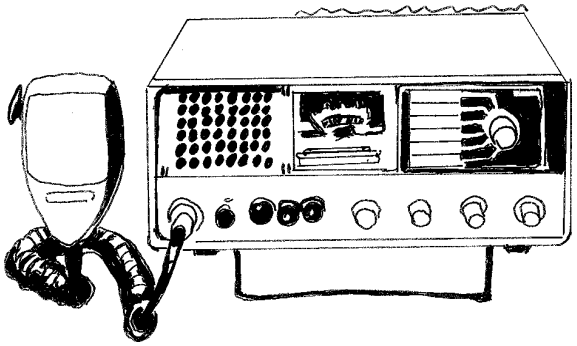
Quality Requirements:

- Conforms to International/National Standards.

Note: *The layout is such, that the most urgently needed and immediately usable items are on top, while the equipment which offers additional possibilities but needs a minimum amount of installation work is stored further down. All items are however accessible at all times, as the layers can be lifted out one by one and can be inserted in any other sequence as well.*

TRANSCEIVER,
RADIO VOICE SYSTEM

Shipping weight: **Approx. 10 kg**
Shipping volume: **Approx.290x110x360 m**
UNCCS Code: **467654**



Type:

- Light weight base station of rugged contruction.

Technical Specifications:

- Input power: 10 - 15 VDC, standby consumption to be lower than 1A at 12 V.
- Frequency range: 2 to 24 MHz (receive and transmit).
- Operating range: -50°C to +50°C, up to 90% humidity.
- Frequency control: Minimum 25 front-panel programmable channels,simplex and operation mode.
- Modes of operation: Transmit and receive: J3E (USB and LSB).

- Transmitter: Output power: 100 W pep minimum in SSB.
- Receiver: Sensitivity: Better than 0.5 µV for 12 dB sinad in SSB.
  Selectivity: 2.3 kHz/-6 dB (SSB).
  Image rejection: 70 dB or better.
  Clarifier: With central detent, approx. ± 150 Hz.

Additional features:

- Programmable scanning facility for all channels.
- Protection against inversion of polarity.
- Protection against overtension.
- Automatic fuses or easily accessible interchangeable fuses with spare fuses delivered as part of a standard package.
- Automatic antenna tuner (Integrated or external).

Optional features:

- Selcall (protocol to be compatible).

HF base station antenna:

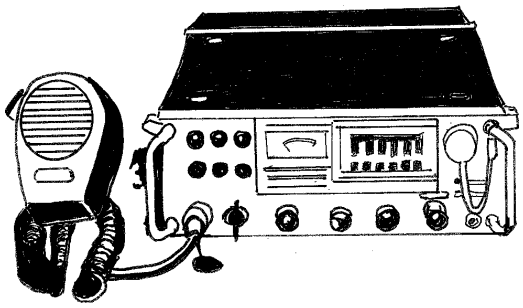
- See antenna systems for HF radio communications.

Quality Requirements:

- Conforms to International/National Standards.

TRANCEIVER, TRANSPORTABLE

Shipping weight:	**Approx. 4 kg**
Shipping volume:	**Approx.250x320x80mm**
UNCCS Code:	**467655**



TRANSCEIVER

Type:

- Solid state HF transceiver of rugged construction. Synthesized, programmable with built-in receiver scanning facility.

Technical Specifications:

- Frequency range:
  2 - 24 MHz (min) - base station.
  3 - 18 MHz (min) - mobile station.

- Receiver selectivity: Greater than 60 dB at -1 kHz and +5 kHz.
- Channels: 25 front-panel programmable channels.
- Mode of operation: J3E (USB and LSB).
- Operating range: -30 to +60 °C at 90% humidity.
- Transmission Output: 100 W pep.
- Power requirements: 10-15 VDC, reverse polarity and overvoltage protection.

Options:

- Selcall (Protocol to be compatible).
- Extended control head with mounting .
- Bracket for vehicle installation.

HF VEHICLE ANTENNA

Frequency range:

- To cover the range in operation.
  Sturdy construction to withstand rough road driving, automatically tuned and complete with installation hardware (must be waterproof, i.e. unaffected by river fords).

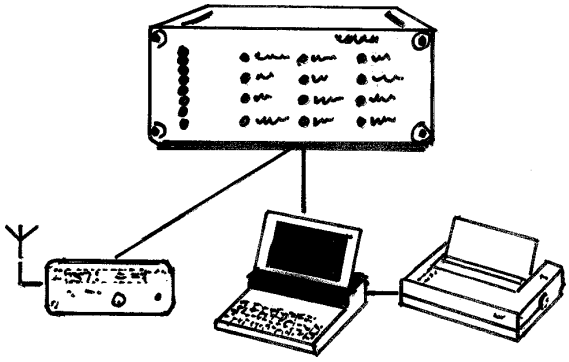
Quality Requirements:

- Conforms to International/National Standards.

RADIOTELEX DATA TRANSMISSION SYSTEM

Shipping weight:	**Approx. 15 kg**
Shipping volume:	**Approx. 0.05 m³***
UNCCS Code:	**467684**

*(excl. antenna)



Use:

- SITOR and PACTOR are communication systems whereby low speed data information can be transmitted over a HF-radio connection.

Type:

- Data transmission via a HF-radio connection using the PACTOR A system.

Technical Specifications:

- Power supply: 12 VDC
- HF-Transceiver: Suitable for SITOR / PACTOR (see specifications of HF-Transceiver).
- HF-Modem:
  - Type: High speed PACTOR, incl. software on 3.5" diskette, interface cables and operation manual.
  - Throughput: 200/100 bps.
  - Com. modes: PACTOR ARQ, FEC, MONITOR, SITOR ARQ, SELFEC.
  - Modulation: FSK/AFSK.

Computer equipment:

- RAM; 1 Mb (min).
- 1 floppy drive 3.5" 1.44 Mb.
- 20 Mb hard disk (min).
- Working from 12 VDC.
- Serial RS232 and parallel Centronics Interface.
- Socket for 12 V external supply, including mains battery charger.

Printer:

- 9-pin matrix print head, or bubble-jet printer.
- Parallel PC connection.
- Draft printing speed 120 characters/sec.
- Ribbon cartridges for matrix printer or printer heads (bubble jet printer).
- Modified for 12 VDC operation.
- Accessories for printer: Paper roll holder and Spare cartridge.

Power equipment:

- Battery charger: 12 V / 25 A or
- Generating set: 350 W or.
- Solar power supply: (see Solar Panel specifications for further details).

Antenna equipment:

- Delta-loop, broad band or log periodic antenna (see antenna specs for further details).

Accessories for antenna:

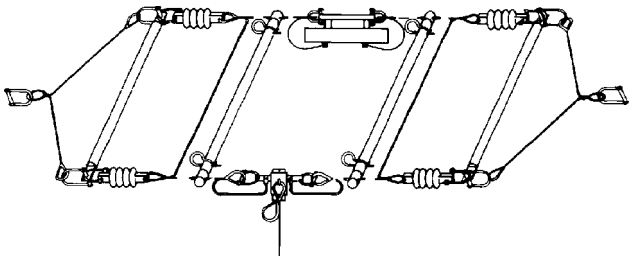
- Heavy duty antenna coupler control cable, 25 meters long.
- SWR/power meter, frequency range 2 - 30 MHz.

Quality Requirements:

- Conforms to International/National Standards.

BROADBAND ANTENNA

Shipping weight:	**Approx. 20 kg**
Shipping volume:	**Approx. 0.16 m³**
UNCCS Code:	**475431**



Area of use:

- For medium-range point to point and base to mobile communication.The advantage is that it can be used with natural available support systems such as buildings, high trees and free-standing masts. It is relatively simple and easy to erect and does not require an antenna tuner.

Type:

- Broadband antenna.

Typical kit:

- 1 Antenna.
- 1 Roll of 100 m nylon rope, Ø 5 mm.
- 2 Mast holders.
- 2 Wire holders.
- 4 Rawl plugs with hook screw.
- 50 Union screws.
- 8 Turn buckles.
- 20 Protective rings.
- 8 D shackles.
- 5 Complete rawl plugs.
- 30 m Coaxial cable RG-58U.
- 1 Installation manual.

Note:

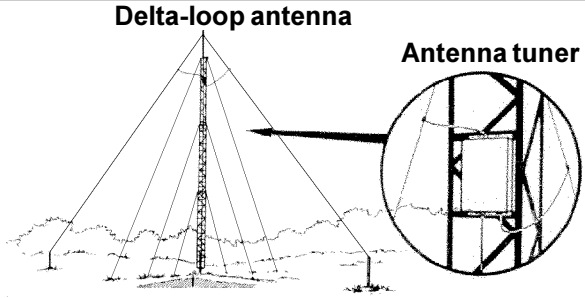
For temporary installations where available support structures can be used, the above mentioned kit could be reduced to consist of only a few necessities such as nylon rope, some 30 to 50 meters of RG-58 coaxial cable with connectors on both ends and a handful of tye-raps.

Quality Requirements:

- Conforms to International/National Standards.

DELTA LOOP ANTENNA

Shipping weight:	**Approx. 10 kg**
Shipping volume:	**Approx. 0.02 m³**
UNCCS Code:	**475432**



Area of use:

- For a semi-permanent or fixed base station installation, where an antenna system needs to be erected quickly and easily for multi-frequency operation, a delta loop antenna is most often chosen. A delta loop antenna can only be used with an associated antenna tuner, preferably automatic.

Type: Delta loop antenna.

Wind and ice survival:

- Wind: 160 km/h (100 mph).
- Ice-accumulated: 40/50 kg (90/110 lbs).

Typical kit: (Standard version for wall mounting):

- 30 m Multistrand (49x0.2 mm) copperweld wire.
- 1 10.2 m telescopic mast.
- 6 Insulators.
- 2 Variable wall brackets.
- 100 m Guywire.
- 1 Guywire bracket.
- 10 Guywire clamps.
- 1 Ground bracket.
- 50 m Coaxial cable RG58 fitted with 2 UHF PL259.
- 8 Spring safety hooks.
- 6 Plastic dowels.
- 5 Wall dowels.
- 1 Mounting instructions manual.

Extending kit: (For field installation):

- 2 2 m masts.
- 2 Guyrope brackets.
- 8 Ground spikes.
- 4 Ground spikes for mastfoot.
- 4 Hooks.
- 4 Guywire clamps.
- 1 Swivel mastfoot.
- 2 Fixed mastfeet.

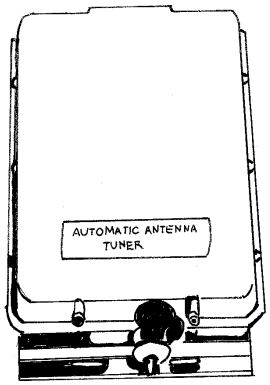
Quality Requirements:

- Conforms to International/National Standards.

Note: *In some cases the above mentioned kit is too extensive - locally available mast material, plenty of good nylon rope, 6 ceramic insulators and about 30 meters of insulated stranded 4 mm² is often enough to make up the loop. A few meters of solid copper wire 4 mm² should also be included to make up egg-chains and for general use.*

AUTOMATIC ANTENNA TUNER

Shipping weight:	**Approx. 5 kg**
Shipping volume:	**Approx. 0.02 m³**
UNCCS Code:	**475434**



Area of use:
- Necessary when a delta-loop antenna is used.

Frequency range:
- 2-30 MHz.

Power capability:
- 150 W pep.

Input impedance:
- 50 Ohms.

Tune-up power:
- 5-15 W

Tune-up time:
- 1-2 sec.

Power supply:
- 12 VDC operation (from transceiver).

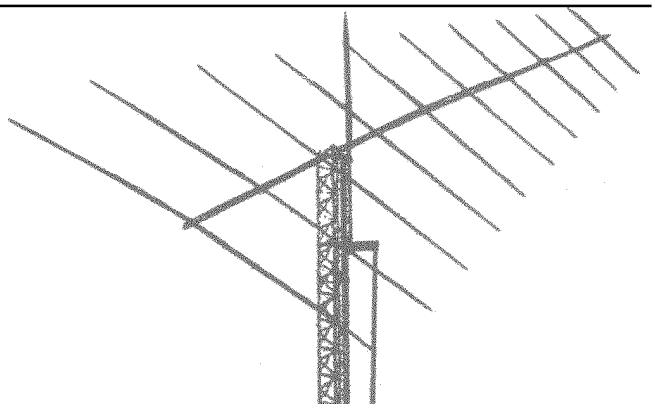
Construction:
- Weatherproof enclosure.

Accessories:
- 50 m control cable.

Quality Requirements:
- Conforms to International/National Standards.

LOG PERIODIC ANTENNA

Shipping weight: **Approx. 38 kg**
Shipping volume: **Approx. 3 m³**
UNCCS Code: **475433**



Area of use:

- A log periodic antenna is suitable for communication over medium and long distances where a more sophisticated antenna system is required. It needs, however, a solid mast or tower of minimum 8 meters and is therefore most often used with permanent or semi-permanent installations.

Type:

- Log periodic antenna:

Technical Specifications:

• Frequency range:	10-30 MHz.
• Power capability:	1.5 / 3.0 kW pep.
• Forward gain:	(Nominal) approx. 10 dB.
• Input impedance:	50 Ohms.
• Azimuth beam width:	Nominal 58 degrees (at half power point).
• Angle of maximum radiation:	Low frequency: 20 degrees. High frequency: 8 degrees.

Accessories:

- Hoisting mast, minimum 8 m.
- Rotor system, complete with control box and fittings.
- Multicore remote control cable: 50 m x 10 x 1 mm².
- Ground wire: 20 m x 1 x 4 mm².
- Coaxial cable: 50 m, RG 213.

Comments:

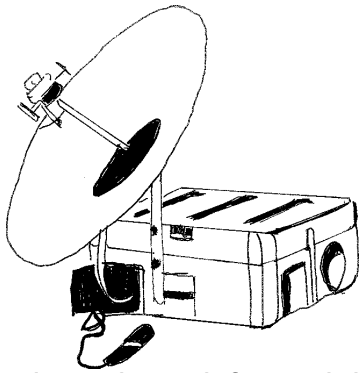
- As cranes are often not available to mount such an antenna, a tilting type mast (i.e. VERSA). tower) is recommended.

Quality Requirements:

- Conforms to International/National Standards.

INMARSAT,
APPROVED STANDARD A

Shipping weight:	**Approx. 25 kg**
Shipping volume:	**Approx. 0.1 m³**
UNCCS Code:	**467431**



Areas of use:

- An office installed Inmarsat Standard A to provide voice, telex, telefax and data between the terminal and the international telecommunication networks.

To Include:

- Inmarsat A transceiver with built-in control keyboard, built-in control display and telephone handset.
- Built-in telex or lap-top with printer and software used as telex.
- Parabolic dish antenna with wall brackets, visual and/or acoustic signal strength indicator (to facilitate positioning of antenna).
- Operating and service manual, dual identity number.
- Power cable, min. 5 mtrs extension low-loss antenna cable and interconnecting cables.
- DC/AC 12/220 V inverter (inverting output rating: sufficient to power the STD A terminal and a connected fax machine).

Standard channels:

- Telex: 50 baud 66 word per minute.
- Voice: 9.6 kbits/s.
- Fax: 9.6 kbits/s (uncompanded channel).
- Data: 9.6 kbits/s (uncompanded channel).
- HSD: Simplex 56 or 64 kbits/s.

Options:

- Duplex HSD transfer both 56 and 64 kbit/s.

Interfaces:

- RJ 11 for connecting a second telephone or a fax.
- RS 232 Hayes compatible, for connecting modem, printer or lab-top computer.

Environment:

- Operating temperature: Antenna -25º to +55º C.
- Electronic 0º to +45º C.
- Relative humidity: Antenna 95 % at 40º C.
- Electronics 85 % at 40º C.
- Antenna and outdoor unit must be weather proof.

Power supply:

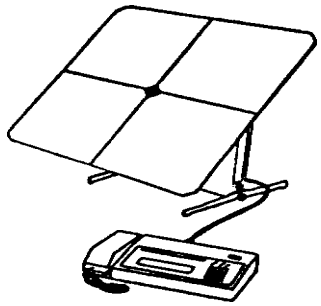
- 90-240 Vac, 50-60 Hz single phase.

Accessories:

- 10-150 meters extension low-loss antenna cable.
- Lap-top computer.
- Printer.
- Fax machine.

INMARSAT, APPROVED STANDARD B

Shipping weight:	**Approx. 25 kg**
Shipping volume:	**Approx. 0.1 m³**
UNCCS Code:	**467432**



Areas of use:

- An office installed Inmarsat Standard B to provide voice, telex, telefax and data between the terminal and the international telecommunication networks.

To Include:

- Inmarsat B transceiver with built-in control keyboard, built-in control display and telephone handset.
- Built-in telex or lap-top with printer and software used as telex.
- Parabolic dish antenna with wall brackets, visual and/or acoustic signal strength indicator (to facilitate positioning of antenna).
- Operating and service manual, dual identity number.
- Power cable, min. 5 mtrs extension low-loss antenna cable and interconnecting cables.
- DC/AC 12/220 V inverter (inverting output rating: sufficient to power the STD B terminal and a connected fax machine).

Standard channels:

- Telex: 50 baud 66 word per minute.
- Voice: 16 kbits/s with voice coding.
- Fax: 9.6 kbits/s, CCITT G3 standard.
- Data: 9.6 kbits/s.
- HSD: Simplex 56 or 64 kbits/s.

Options:

- Duplex HSD transfer both 56 and 64 kbit/s.

Interfaces:

- RJ 11 for connecting a second telephone or a fax.
- RS 232 Hayes compatible, for connecting modem, printer or lab-top computer.

Environment:

- Operating temperature: Antenna -25º to +55º C.
- Electronic 0º to +45º C.
- Relative humidity: Antenna 95 % at 40º C.
- Electronics 85 % at 40º C.
- Antenna and outdoor unit must be weather proof.

Power supply:

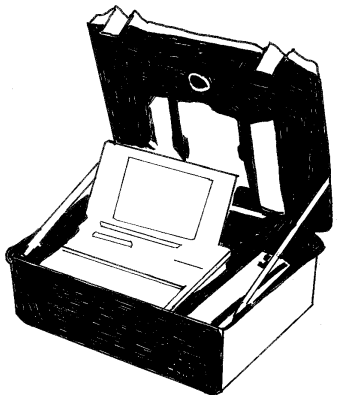
90-240 Vac, 50-60 Hz single phase.

Accessories:

10-150 meters extension low-loss antenna cable.
Lap-top computer.
Printer.
Fax machine.

INMARSAT,
approved STANDARD C

Shipping weight:	**14 kg**
Shipping volume:	**0.04 m³**
UNCCS Code:	**467432**



Use:

- A Land-mobile Inmarsat C to provide access to international telex, data and other networks and to transmit data files.

To include:

- Inmarsat C transceiver with built-in control keyboard and built-in control display.
- Built-in telex or lap-top with printer and software used as telex.
- Omnidirectional antenna.
- Built-in battery.
- Inmarsat C transceiver must support 2-way telex- and data transfer in addition to 1 way compressed telex, X25, PSTN (sending text to a telefax) and E-mail facilities.
- Operating and service manual.
- Antenna cable and interconnecting cables.

Standard channels:

- Telex: 50 baud 66 word per minute.
- Data: 600 bit/s.

Interfaces:

- RS 232 printer port.
- RS 232 data port.

Environment:

- Operating temperature:
- Electronic -25°C to +55°C.
- Antenna -35°C to +55°C.
- Relative humidity: 95% 40°C.

Antenna unit must be weather proof.

Power supply:

- 10.5-32 VDC.

Accessories:

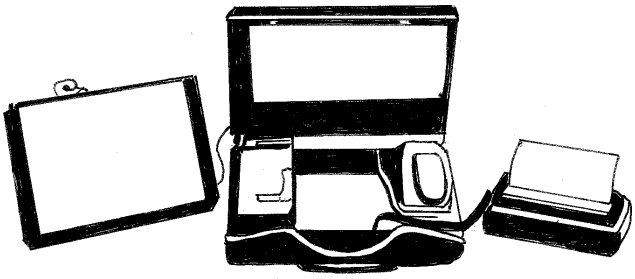
- Data interface box and mobile printer.
- GPS interface and operations package.
- Automatic data and position reporting/polling.

Quality Requirements:

- Conforms to International/National Standards.

INMARSAT,
approved STANDARD M

Shipping weight:	**Approx. 14 kg**
Shipping volume:	**Approx. 0.02 m³**
UNCCS Code:	**467433**



Description:

- A portable briefcase sized Inmarsat Standard M to provide voice, fax and data between the terminal and the international telecommunication networks.

To include:

- Inmarsat M transceiver with built-in control keyboard, built-in control display and telephone handset.
- Removable antenna, visual and/or acoustic signal strength indicator (to facilitate positioning of antenna).
- Built-in battery.
- Power cables and interconnecting cables.
- Operating and service manual and compass.

Environment:

- Operating temperature: -25°C to +55°C.
- Relative humidity: 95 % at 40º C.

Antenna and unit must be weather proof.

Power supply:

- 10.5-32 VDC.

Channels:

- Voice channel: 4.8 kbits/s.
- Fax channel: 2.4 kbits/s CCITT G3 standard.
- Data channel: 2.4 kbits/s.

Accessories:

- Lap-top computer with printer.
- Portable fax machine equipment.
- Up to 15 meters antenna cable.
- Solar panel.
- Battery pack with charger.
- AC/DC power supply, 90 - 240 VAC at 50/60 Hz with AC/DC connector.

Quality Requirements:

- Conforms to International/National Standards.

INMARSAT, approved
STANDARD Mini M

Shipping weight: **2.2 kg**
Shipping volume: **200x270x50mm**
UNCCS Code: **467433**

Use:

- A portable briefcase sized Inmarsat Standard Mini M to provide voice, fax and data between the terminal and the international telecommunication networks.

To include:

- Inmarsat Mini M transceiver with built-in control keyboard, built-in control display and telephone handset.
- Removable antenna, visual and/or acoustic signal strength indicator (to facilitate position ing of antenna).
- Built-in battery.
- Antenna cables and interconnecting cables.
- Operating and service manual and compass.
- SIM card facilities.

Environment:

- Operating temperature: -25°C to +50°C.
- Relative humidity: 95 % at 40º C.

Antenna and unit must be weather proof.

Power supply:

- 10-32 VDC.

Channels:

- Voice channel: 4.8 kbits/s.
- Fax channel: 2.4 kbits/s CCITT G3 standard.
- Data channel: 2.4 kbits/s.

Interfaces:

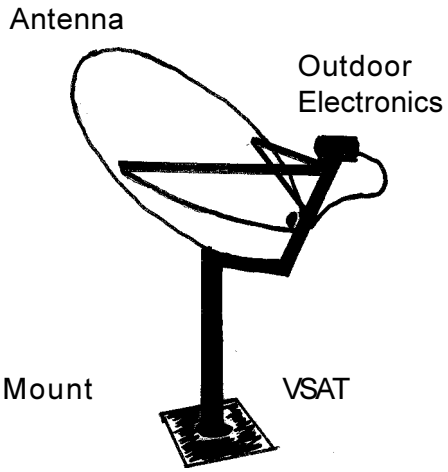
- RJ 11 for connecting a second telephone or a fax.
- RS 232 Hayes compatible data port.
- RS 232 printer port.

Accessories:

- Lap-top computer with printer.
- Portable fax machine equipment.
- Up to 15 meters antenna cable.
- Solar panel.
- Battery pack with charger.
- AC/DC power supply, 90 - 240 VAC at 50/60 Hz with AC/DC connector.

VSAT

Shipping weight:	**Approx. 25 kg**
Shipping volume:	**Approx. 0.1 m³**
UNCCS Code:	**467433**



Type:

- VSAT Very Small Aperture Terminal which refers to receive/transmit terminals installed at dispersed sites connecting to a central hub via satellite using small diameter antenna dishes.

Area of use:

- Used for the reliable transmission of data, video or voice via satellite. Specialist staff are not required, it simply plugs into existing terminal equipment.These new,smaller dishes are capable of sending and receiving signals from geostationary satellite while offering major advantages such as cost savings, portability and easy installation in various types of terrain.

Size:

- 0.9 - 1.8 meters.

Note:

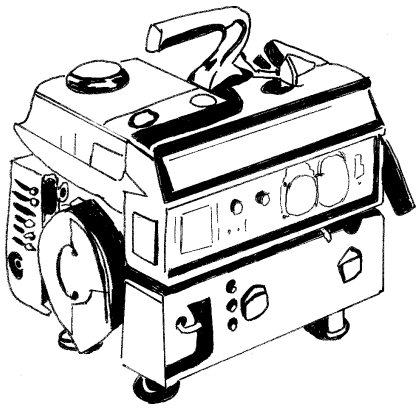
- *The VSAT equipment consists of two units: one outdoor unit (consisting of a small antenna for receiving and transmitting signals) which is placed in the line of sight to the satellite and one indoor unit (consisting of a small desktop box containing receiver and transmitter boards) to interface with the users communications device.*

Quality Requirements:

- Conforms to International/National Standards.

GENERATORS

Shipping weight: **Approx. 10 kg**
Shipping volume: **Approx. 0.02 m³**
UNCCS Code: **461140**



Area of use:
- Can be used as a power generator and as a battery charger.

Type:
- Portable petrol generator, both AC and DC output.

Output:
- Voltage: 220 VAC.
  12 VDC.
- Frequency: 50 Hz.
- Power: Minimum 300 W.

Engine:
- 2 stroke, petrol engine, air cooled.
- Consumption approx 0.3 litres/h.

Tank:
- Minimum: 0.8 litres.

Options:
- Manual switch to select between AC or DC output.
- Battery charger built-in.

Accessories:
- Cables and connectors included.

Quality Requirements:
- Conforms to International/National Standards.

SOLAR POWER SUPPLY KIT

Shipping weight: See below
Shipping volume: See below
UNCCS Code: 466541

Type:	**Heavy duty**	**Light duty**
• **Shipping weight:**	16 kg	8 kg
• **Shipping volume:**	0.2 m²	0.1 m²
• **Number of panels:**	21	

Area of use:
- Power supply for 12 VDC telecommunication equipment.

Rated:
- Heavy duty: 5.4 A, 65 W.
- Light duty: 2.7 A, 32 W.

Contents of solar kit:
- Solar panel.
- Mounting frame.
- Anti-bird spikes
- 6 meter long heavy duty twin core cable.
- Battery lugs.
- Regulator containing minimum:
  - Volt/ampere meter.
  - High/low voltage indicator.
  - 50 amps battery fuse.
  - 30 amps load control fuse, outdoor enclosure.
  - Adjustable overcharge timer.

Cabling and plugs:
- 6 m single core 4 mm² cable (intermodule cabling).
- 50 m double core 2.6 mm² power cable (array to charge controller and from charge controller to load).
- 100 pieces cable clip.
- 100 pieces plastic plugs.
- 10 plastic strips.
- 1 piece isolation tape.
- 2 pieces plugs of mil. standard (for the array cable and the load cable into the battery box).

The storage of the power should be on a 12V batteries with capacity of minimum 200Ah.

Quality Requirements:
- Conforms to International/National Standards.