

Comstrailer
Hyder 72-521-01

PRODUCT CATALOG · REV 02

COMSTRAILER

MOBILE SOLAR-POWERED COMMUNICATIONS TRAILER

Autonomous power. Bridged connectivity. Anywhere on earth. A self-contained, trailer-mounted station that generates its own energy, raises a motorized telescopic mast and bridges a wireless link – bringing power and network to remote mines, exploration camps and off-grid sites in minutes.

OFF-GRID

SOLAR + DIESEL

6.3 M TELESCOPIC TOWER

P2P WIRELESS

ALL-TERRAIN TRAILER

CONNECTIVITY WHERE THE GRID ENDS

Remote mining pits, exploration blocks and greenfield project sites share one problem: no mains power and no network. The **Comstrailer** solves both in a single towable unit. It harvests solar energy with a diesel generator on standby, stores it in an on-board battery bank, and powers a motorized telescopic mast carrying point-to-point wireless radios — establishing a live data link to the nearest backbone. Position it, level it on its jacks, raise the tower, and the site is online.

6.3 m

TELESCOPIC TOWER REACH

1.86 kWp

SOLAR ARRAY (3 × 620 W)

6.5 kVA

INVERTER · 2 × 5 KVA
BATTERIES

5 kVA

DIESEL BACKUP GENSET



POWER

Solar array, 6.5 kVA inverter and twin battery banks deliver silent daytime power, with an automatic 5 kVA diesel genset for continuous, round-the-clock supply.



CONNECT

A motorized telescopic tower lifts P2P wireless radios to 6.3 m, bridging the site to a distant network node. Rack-mounted gear sits in a climate-shielded electrical room.



MOBILE

A twin-axle steel trailer with towing eye, four stabilizer jacks and lifting eyes. Tow it in, level it, deploy — no cranes, no civil works, no external power required.



COMSTRAILER — TRANSPORT CONFIGURATION, TOWER STOWED

FIELD-PROVEN ENGINEERING

The Comstrailer was engineered, built and commissioned by MET Group for deployment on a tier-one copper-gold mining operation, where reliable off-grid connectivity is mission-critical. Every unit is custom-manufactured to the client's terrain, climate and network topology.

Built to order, worldwide. Power ratings, tower height, radio payload, room layout and livery are all configurable. Talk to us about your site and we will engineer the unit around it.

— SYSTEM ANATOMY

ONE UNIT, **EVERY** SUBSYSTEM

Power generation, energy storage, networking and mobility are integrated into a single insulated steel body split into two sealed compartments — an **electrical room** and a **generator room** — served by external access doors and a motorized mast.



DEPLOYED CONFIGURATION — TOWER RAISED, ACCESS DOOR OPEN

1 TELESCOPIC NETWORK TOWER

Motorized mast, 3.15 m stowed → 6.30 m deployed, carrying the wireless payload.

2 P2P NETWORK RADIOS

Point-to-point CPE mounted at the mast head to bridge the site link.

3 DEPLOYABLE SOLAR WINGS

Three 620 W panels — top, left and right — fold out for maximum harvest.

4 ELECTRICAL ROOM

Inverter, battery banks, distribution board and networking U-rack.

5 GENERATOR ROOM

5 kVA diesel genset, tool box and exhaust ventilation.

6 TRAILER & JACKS

Twin-axle chassis, towing eye and four slider-shift stabilizer jacks.

— ONBOARD SYSTEMS & SAFETY



SEALED COMPARTMENTS

Lockable, weather-sealed access doors to electrical and generator



FIRE EXTINGUISHER

Mounted extinguisher within the electrical room for first-response



EMERGENCY STOP

External E-stop button isolates the electrical system instantly.

A POWER PLANT ON WHEELS

The Comstrailer is energy-independent. A deployable solar array charges an on-board battery bank through a solar inverter for silent, fuel-free operation by day. When demand runs high or sunlight is short, the on-board diesel generator carries the load — so the network never goes dark.



SOLAR WINGS — DEPLOYED HARVEST



GENERATOR ROOM — 5 KVA GENSET



ELECTRICAL ROOM — 6.5 KVA INVERTER

HOW THE ENERGY FLOWS

- A HARVEST**
3 × 620 W panels (≈1.86 kWp) fold out on top and both sides and feed a solar breaker.
- B STORE**
Energy is banked in 2 × 5 kVA battery banks for stable, silent supply.
- C CONVERT**
A 6.5 kVA inverter delivers clean AC to the network gear, lighting and sockets.
- D BACK UP**
A 5 kVA diesel genset covers peak load and extended low-sun periods.

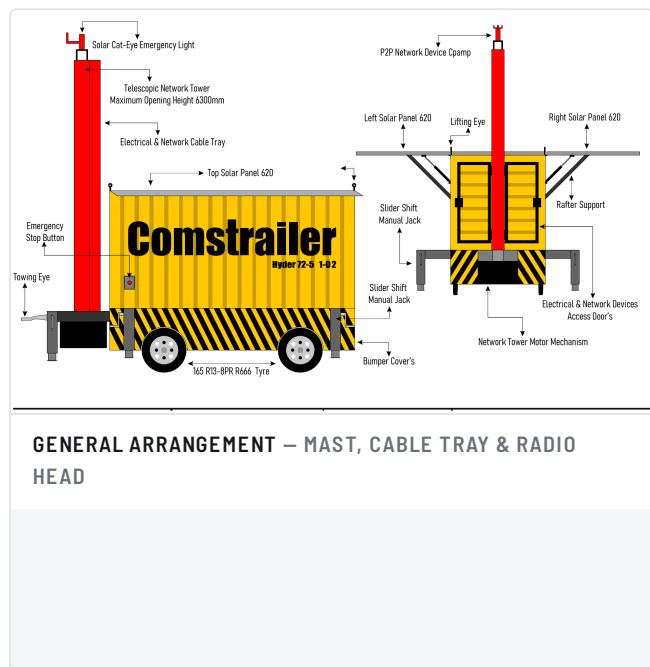
POWER & ELECTRICAL / RATINGS

SOLAR ARRAY	3 × 620 W panels (Top / Left / Right) · ≈1.86 kWp
INVERTER	6.5 kVA solar inverter
BATTERY BANK	2 × 5 kVA banks
BACKUP GENERATOR	Diesel genset, 5 kVA
DISTRIBUTION	Electrical D.B. + dedicated solar breaker
LOADS	Power sockets, light & fan switch, exhaust fan
PROTECTION	Emergency stop; sealed, ventilated rooms

Configurable. Solar capacity, battery autonomy and genset rating are scaled to your site load and sun hours.

BRIDGE THE WIRELESS LINK

At the heart of the Comstrailer is a motorized telescopic tower that lifts point-to-point wireless radios high above obstructions to establish line-of-sight with a distant network node. Rack-mounted networking equipment lives in the electrical room, cabled to the mast through a covered tray.



TOWER & NETWORK / SPECIFICATION	
TOWER TYPE	Motorized telescopic mast
HEIGHT – STOWED	3,150 mm
HEIGHT – DEPLOYED	6,300 mm (max opening)
RAISE / LOWER	Network tower motor mechanism
BASE PLATE	300 × 300 × 18 mm steel
RADIO PAYLOAD	P2P wireless device (CPE), mast-head mounted
EQUIPMENT RACK	U-rack in electrical room
CABLE TRAY	Covered 100 × 100 × 2,400 mm



LINE-OF-SIGHT REACH

6.3 m mast clears vehicles, berms and camp structures to lock the link.



RACK-READY

U-rack houses switches, routers and PoE for a clean, serviceable install.



P2P / P2MP

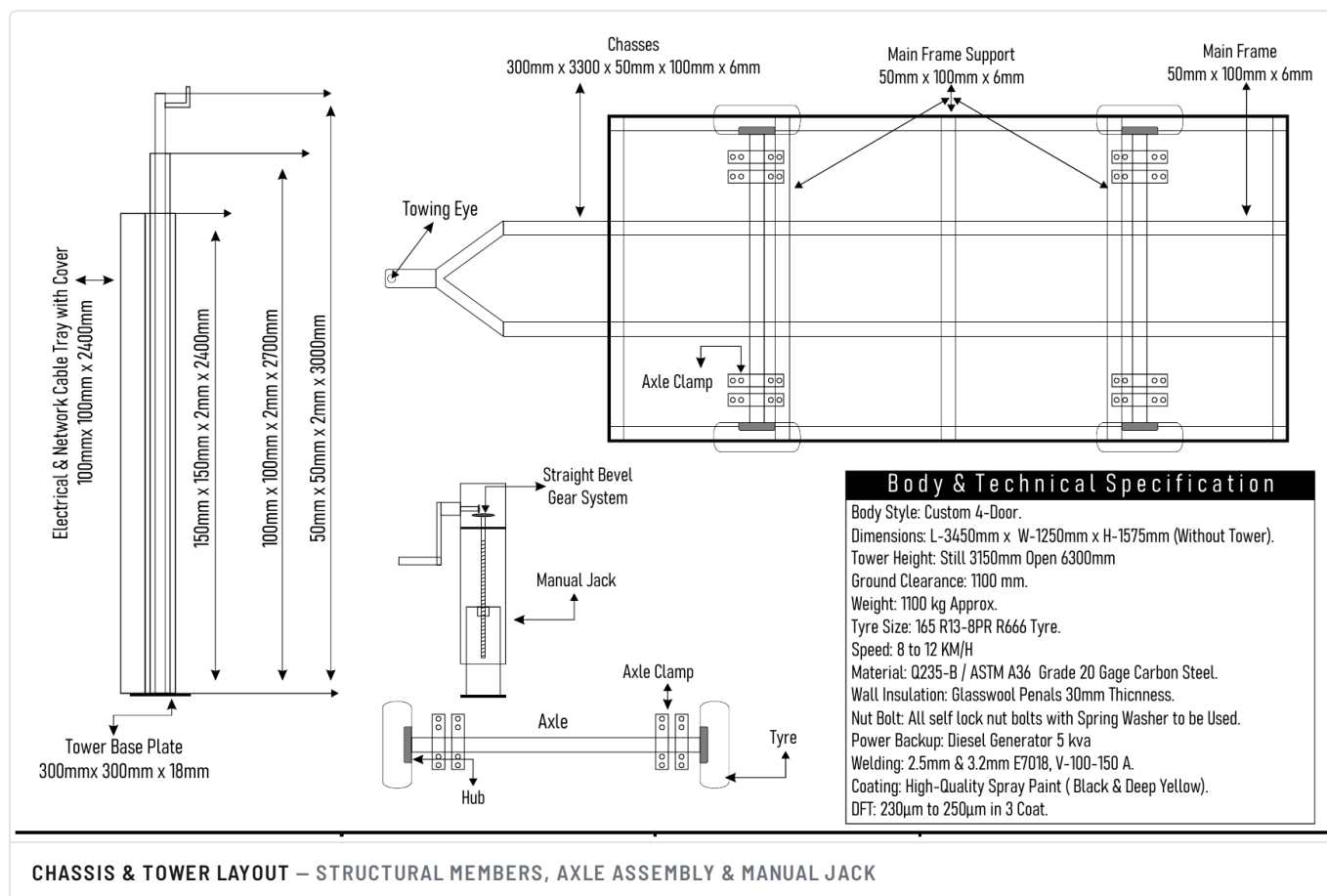
Configure for point-to-point backhaul or point-to-multipoint site coverage.

THE DEPLOYMENT

Tow in · level on four jacks · raise the mast · align the radios — **a dark site becomes a connected worksite in minutes**, with no grid, no tower crew and no civil works.

BUILT FOR PUNISHING TERRAIN

The Comstrailer body and chassis are fabricated from certified carbon steel, welded to code and finished with a heavy three-coat protective system. Insulated walls shield sensitive electronics from desert heat, while a twin-axle chassis and four stabilizer jacks give a stable, level platform on rough, unprepared ground.



CHASSIS & TOWER LAYOUT – STRUCTURAL MEMBERS, AXLE ASSEMBLY & MANUAL JACK

STRUCTURE & FABRICATION

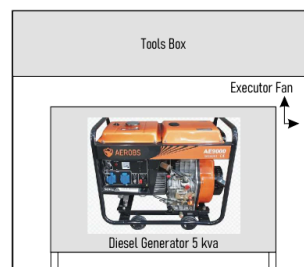
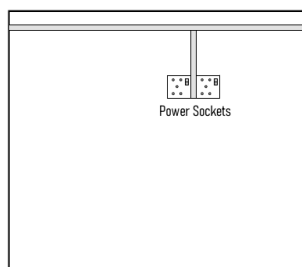
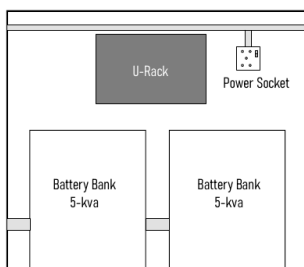
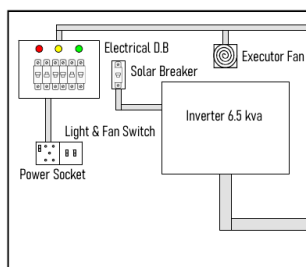
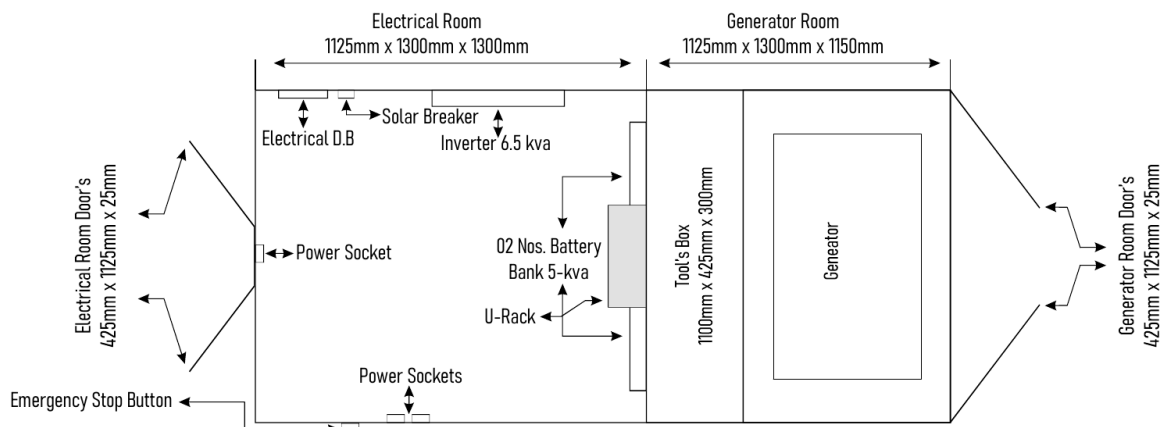
MATERIAL	Q235-B / ASTM A36, 20-gauge carbon steel
CHASSIS	300 × 3,300 mm; 50 × 100 × 6 mm box section
MAIN FRAME & SUPPORTS	50 × 100 × 6 mm
TOWER BASE PLATE	300 × 300 × 18 mm
WALL INSULATION	Glass-wool panels, 30 mm
WELDING	E7018 · 2.5 & 3.2 mm · 100-150 A · V-groove
FASTENERS	Self-locking nuts with spring washers throughout

FINISH & MOBILITY

COATING	High-quality spray paint (black & deep yellow)
COATING THICKNESS	DFT 230-250 µm in 3 coats
AXLES	Twin-axle, hub & axle-clamp assembly
TYRES	165 R13-8PR (R666)
STABILIZERS	4 × slider-shift manual jacks
COUPLING	Towing eye + lifting eyes
GROUND CLEARANCE	1,100 mm

TWO ROOMS, **ZERO** COMPROMISE

The body is partitioned into an electrical room and a generator room, each with its own weather-sealed access doors. Sensitive power and network equipment is isolated from the genset's heat, fumes and vibration, while shared ventilation keeps both compartments cool.



ELECTRICAL & GENERATOR ROOM LAYOUT – EQUIPMENT PLAN & ELEVATIONS

ELECTRICAL ROOM

1,125 × 1,300 × 1,300 mm

ELECTRICAL D.B.

SOLAR BREAKER

6.5 KVA INVERTER

2 × 5 KVA BATTERIES

U-RACK

POWER SOCKETS

LIGHT & FAN SWITCH

E-STOP

GENERATOR ROOM

1,125 × 1,300 × 1,150 mm

5 KVA DIESEL GENSET

TOOL BOX 1100×425×300

EXHAUST FAN

POWER SOCKETS

SEALED DOORS 425×1125×25

Layout is bespoke. Room sizes, equipment selection and door positions are tailored to each order — from compact single-radio units to larger multi-rack shelters.

TECHNICAL SPECIFICATION

GENERAL & DIMENSIONS

MODEL	Comstrailer – Mobile Communications Trailer
BODY STYLE	Custom 4-door insulated container body
OVERALL SIZE (TOWER STOWED)	L 3,450 × W 1,250 × H 1,575 mm
TOWER – STOWED / DEPLOYED	3,150 mm / 6,300 mm
GROUND CLEARANCE	1,100 mm
WEIGHT	≈ 1,100 kg
TOW SPEED	8–12 km/h
TYRES	165 R13-8PR (R666), twin-axle

POWER & ENERGY

SOLAR ARRAY	3 × 620 W (≈ 1.86 kWp)
INVERTER	6.5 kVA
BATTERY BANK	2 × 5 kVA
BACKUP GENERATOR	Diesel, 5 kVA
DISTRIBUTION	Electrical D.B. + solar breaker

CONNECTIVITY

TOWER	Motorized telescopic mast (motor mechanism)
MAX HEIGHT	6,300 mm
RADIOS	P2P wireless device (CPE)
RACK	U-rack, electrical room
CABLE TRAY	100 × 100 × 2,400 mm, covered

STRUCTURE & FINISH

MATERIAL	Q235-B / ASTM A36, 20-ga carbon steel
CHASSIS	300 × 3,300; 50 × 100 × 6 mm
INSULATION	Glass-wool, 30 mm
WELDING	E7018, 2.5 & 3.2 mm, 100–150 A
COATING	3-coat spray; DFT 230–250 µm
STABILIZERS	4 × slider-shift manual jacks

SAFETY

FIRE	Onboard fire extinguisher
ISOLATION	Emergency stop button
VISIBILITY	Solar cat-eye light · hazard livery

Specifications reflect the reference build and are indicative. Dimensions, ratings and equipment are configured per order. MET Group reserves the right to improve the design without notice.

— WHERE IT WORKS

MADE FOR THE WORLD'S HARDEST SITES

Anywhere the grid stops and a network is needed, the Comstrailer delivers. One platform, many missions — configured to the terrain, climate and link distance of each deployment.



MINING OPERATIONS

Pit-edge connectivity, fleet telemetry and camp Wi-Fi on active mine sites.



EXPLORATION CAMPS

Instant data links for drilling programs and remote survey blocks.



OIL, GAS & ENERGY

Wellpad and pipeline monitoring where fixed infrastructure is absent.



CONSTRUCTION SITES

Site-office and machinery connectivity from day one of mobilization.



DISASTER RESPONSE

Rapid emergency comms when grid and towers are down after a disaster.



TELECOM EXTENSION

Backhaul and coverage extension to under-served remote communities.



BORDER & SECURITY

Surveillance and control links for checkpoints and patrol perimeters.



REMOTE AGRICULTURE

Connectivity for large farms, ranches and rural project estates.



EVENTS & FIELD CAMPS

Temporary high-capacity links for expeditions and large gatherings.

ONE PLATFORM

If your site has **no power and no signal**, the Comstrailer brings both — engineered to the exact terrain, temperature and distance of your operation.

BUILD TO ORDER

ENGINEERED **AROUND** YOUR SITE

Every Comstrailer is custom-manufactured. Tell us the load, the link distance and the environment, and we design, fabricate, paint, wire and commission the unit to match — including your corporate livery.

CONFIGURABLE OPTIONS

POWER & STORAGE

Solar kWp, battery autonomy and genset rating sized to your daily load.

TOWER HEIGHT

Mast reach and payload capacity set by your line-of-sight needs.

RADIO PACKAGE

P2P / P2MP radios, antennas and switching to your network design.

BODY & ROOMS

Compartment sizes, racks, HVAC and insulation for the climate.

MOBILITY

Single or twin axle, tyres and jacks matched to terrain and load.

LIVERY & BRANDING

Client colours, logos and safety markings applied in the finish.

WHY MET GROUP

In-house engineering, steel fabrication, electrical and network integration under **one roof** — from drawing board to commissioned unit.



DESIGN-LED MANUFACTURING

CAD drawings and technical documentation for every build.



CODED WELDING & HEAVY COATING

E7018 welds and a 3-coat, 230–250 µm protective finish.



INTEGRATED POWER + NETWORK

Solar, storage, genset and radios delivered as one system.



FIELD-PROVEN

Delivered for tier-one mining; built for export worldwide.

01

CONSULT & SURVEY LOAD / LINK

02

ENGINEER & APPROVE DRAWINGS

03

FABRICATE · WIRE · PAINT

04

TEST · COMMISSION · SHIP

LET'S BUILD YOURS

POWER & NETWORK, ANYWHERE.

Send us your site load, link distance and environment. We'll engineer a Comstrailer around it and manufacture to order for delivery worldwide.

COMPANY

Mufaddal Engineering
& Trading — MET Group

WEB

www.metgroup.pk.com

ENQUIRIES

Custom builds &
export worldwide