

# APM-40

Rapidly Deployable, Stand-alone  
Voice Communication System  
for Disaster Relief and  
Temporary Provisions



**In disaster situations the functioning telecom networks are of vital importance. Loss of telecommunications can completely paralyze rescue operations. However it happens many times that even dedicated public safety networks fail in emergency situations. That is why an alternative communication system is an absolute necessity for every civil protection organization.**

**APM-40** system is an excellent complement to the existing system of public safety telecom networks. **APM-40** allows for a rapid deployment of voice communication network in disaster affected areas even when all other infrastructure (telecom, critical, electro-energetic) is down.

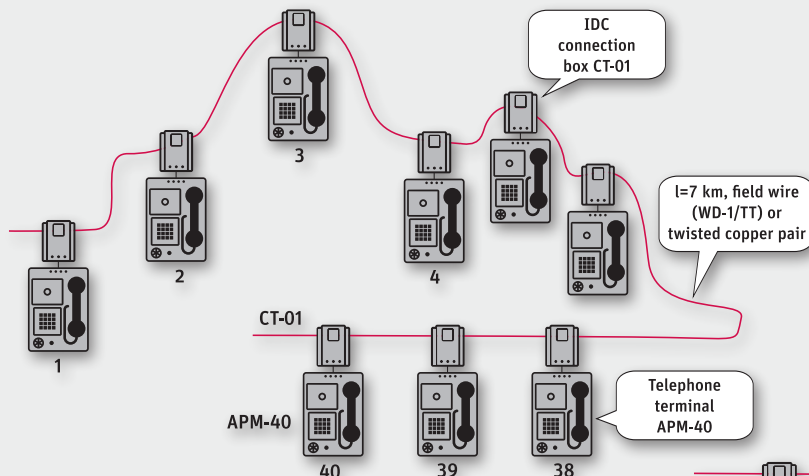
**APM-40** is a fast and reliable solution for establishing a comprehensive telephone network quickly and simply. All you need is a pair of copper/steel wires and several **APM-40** telephone terminals. Each **APM-40** terminal represents a simple building block of the network and is strung along wires over seven kilometers long. APM is a fully decentralized system. Each **APM-40** telephone terminal has embedded PBX and MUX functionality, which means you can gradually build a network of two to forty telephones without any need for a centralized unit.

The network makes it possible to carry on seven duplex voice conversations at the same time over one pair of copper/steel wire. It also allows conference calls and many PBX functionalities. **APM-40** is powered by standard AA batteries available everywhere, or locally (with solar panels or batter-

ies), which ensures total independence from the electricity network. Furthermore, it is possible to make connections (via a special **APM-40/I** interface unit) to another APM network, to telecom and radio networks (PSTN, GSM, UHF, VHF, TETRA...)

All of these features make APM a comprehensive, easy-to-install, and easy-to-use means for establishing a voice communication network under exceptional circumstances. Quickly established and efficient communication between disaster relief forces enables them to fulfill their responsibilities to alleviate the suffering and damage caused by disasters such as floods, earthquakes, and hurricanes.

**APM-40** system also has many applications in other fields: critical infrastructure, border control, field hospitals, refugee camps, large construction sites, tunnels, mines, garages, caves, sports, and other big events.



## Simple APM network

Up to 40 APM-40 telephone terminals may be connected (simply via CT-01 IDC connection box) in parallel to one pair of copper/steel wire. The maximum wire length is app. 7 km.

## Combined APM-radio-PSTN network

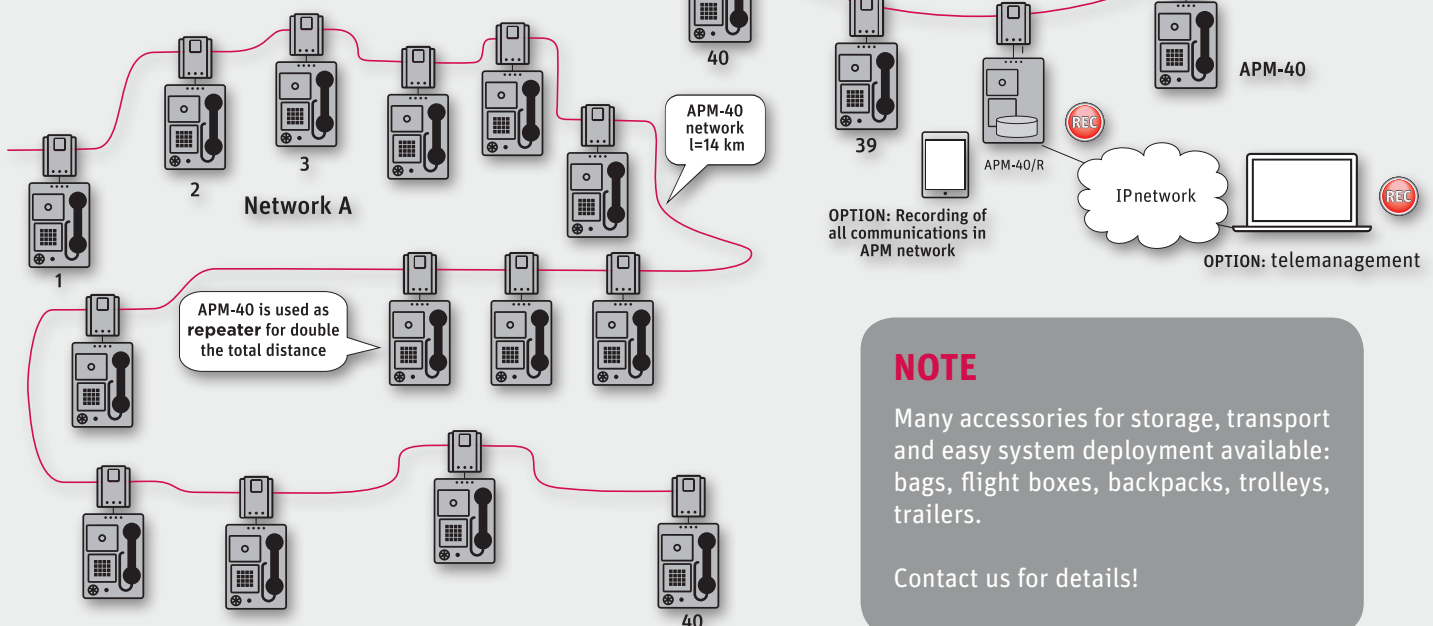
APM-40/I is an APM network gateway, which allows a call from one APM network to be redirected to another APM network. The same unit may serve also as a gateway to PBX, PSTN, GSM networks and for radio link (UHF, VHF, TETRA) connection.

## Topologies

Each APM network may be built in line or ring topology. The line length in line topology is 7 km while in ring topology is 14 km!

## Simple APM network with repeater

One of APM-40 telephone terminals in a string may be used as repeater in order to extend the maximum wire length up to 14 km!



## NOTE

Many accessories for storage, transport and easy system deployment available: bags, flight boxes, backpacks, trolleys, trailers.

Contact us for details!

# HOUSING & IDC CONNECTION BOX

Battery compartment

Handset

Robust waterproof polycarbonate housing

Vandal-proof keypad

Air-Pressure equalizer

Optional speaker or buzzer

Housing cover

21.3 cm

Towards **CT-01**

Connection field with spring binding posts for network connection and optional external power connection

APM-40/I Interface unit with radio station connected

Towards **APM-40**

Main Line

Main Line

Closed **CT-01** box

8.6 cm

Connection field with spring binding posts for connection to **APM-40**.

IDC connectors for easy direct connection to copper/steel wire.

Open **CT-01** box with wires inserted in IDC connectors and in spring bindings posts

**CT-01** is a small waterproof box for IDC connection of **APM-40** unit directly to the copper/steel wire. Optional: built-in over-voltage protection and filtering unit.



## MAIN FEATURES & SPECIFICATIONS

**Beneficiaries and Applications:** first responders, dispatchers of various services (fire service, emergency service, police, logistics, CM, etc.), all Crisis Management stakeholders involved in Command, Control and Coordination (C3) processes; stand-alone communication back-up system for Fukushima scenario in Nuclear power plants and other critical infrastructures; border control, field hospitals, campuses, big events, big construction sites, underground communications (tunnels, metros, garages, shelters)....

**Type of equipment:** field telephone with embedded multiplexer and PBX functionality

**Medium:** field telephone wire (WD-1/TT, D10), copper twisted pair, any two wires conductor...

**Maximum number of terminals in one network:** 40

**Maximum distance (field wire):** 7km, 14 km with repeater; (much more over copper pairs)

**Topology:** line, ring (14 km on field wire without repeater)

**Dialing:** by means of keypad on the APM-40 terminal

**Type of conversations:** duplex conversation of 2 participants, duplex conference of up to 10 participants, broadcast simplex, broadcast duplex

**Type of calls:** Selective, Priority Selective, Conference, Priority Conference, Broadcast

**Privacy:** by means of different scrambling keys

**Powering:** 6 x AA batteries (option: 4 x C batteries)

**Optional local powering:** 9-25 VDC (200 mA). Works with any polarity. Protection in acc. to ISO 7637, ISO 10605, MIL-STD-1275 standards. May be directly powered by solar panel.

**Hands-free operation:** yes, via integrated high quality waterproof speaker

**Address setting:** by means of: 2 rotary switches, configuration file via USB, Java via USB

**SW upgrade, user settings:** by means of configuration file via USB or via optional Bluetooth module

**Housing:** high resistant polycarbonate plastic box with detachable cover. IP grade: IP 67. RAL colors. Default: RAL 7047

**Dimensions:** 21,3 x 28,8 x 10 cm, **Weight:** 2,9 kg, **Operating temperature range:** -20°C to +85°C

**Interface unit APM-40/I supports interfacing with:** PSTN, GSM, private PBX, radio (UHF, VHF, TETRA...), satellite, and another APM-40 network. Multiple Interface units are allowed in each APM-40 network

MVM TEL d.o.o. reserves the right to make changes to specifications without prior notice.

> Allows communications for Crisis Management (CM) in disaster situations when all other systems are down

> Designed for Control Command and Coordination (C3) of CM stakeholders

> Autonomous, fully decentralized, stand alone, bullet-proof quickly deployable or stationery communication system

> Ultra low power consumption allows usage of standard AA batteries which will last for many weeks of operation (one year in standby)

> Fully decentralized approach allows full operation without any central unit (like PBX or switchboard) which means significant set-up time savings and cabling savings

> Allows integration into existing telecom and public safety networks: PSTN, GSM, radio (TETRA, DMR, UHF, VHF...), satellite and interconnecting with other APM-40 networks

> **OPTION:** APM-40/R unit makes possible recording of all communications in the APM network for after event analyses and tele-management via IP network

