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APM-40

Battery Powered
Emergency Phone
with Integrated
MUX and PBX for an
Alternative Communication System

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.

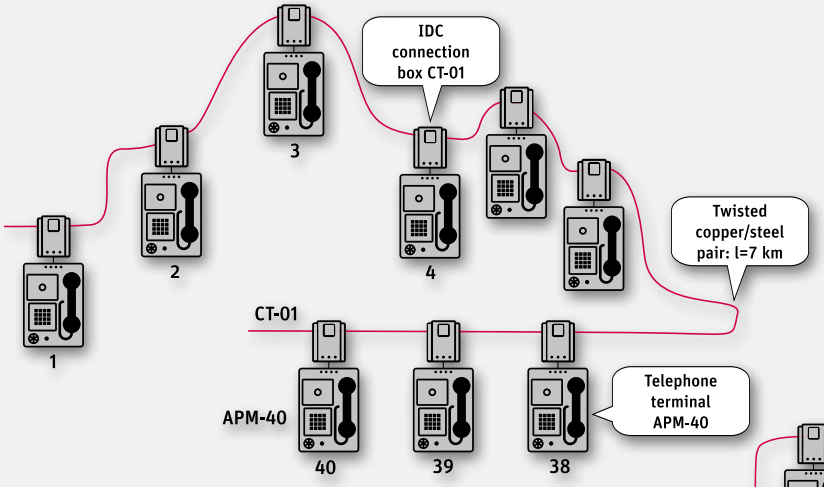
The network makes it possible to carry on seven duplex voice conversations at the same time over one pair of copper/steel wire. It also allows conference calls and many PBX functionalities. **APM-40** is powered by standard AA batteries available everywhere, or locally (with solar panels or batteries),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

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: 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

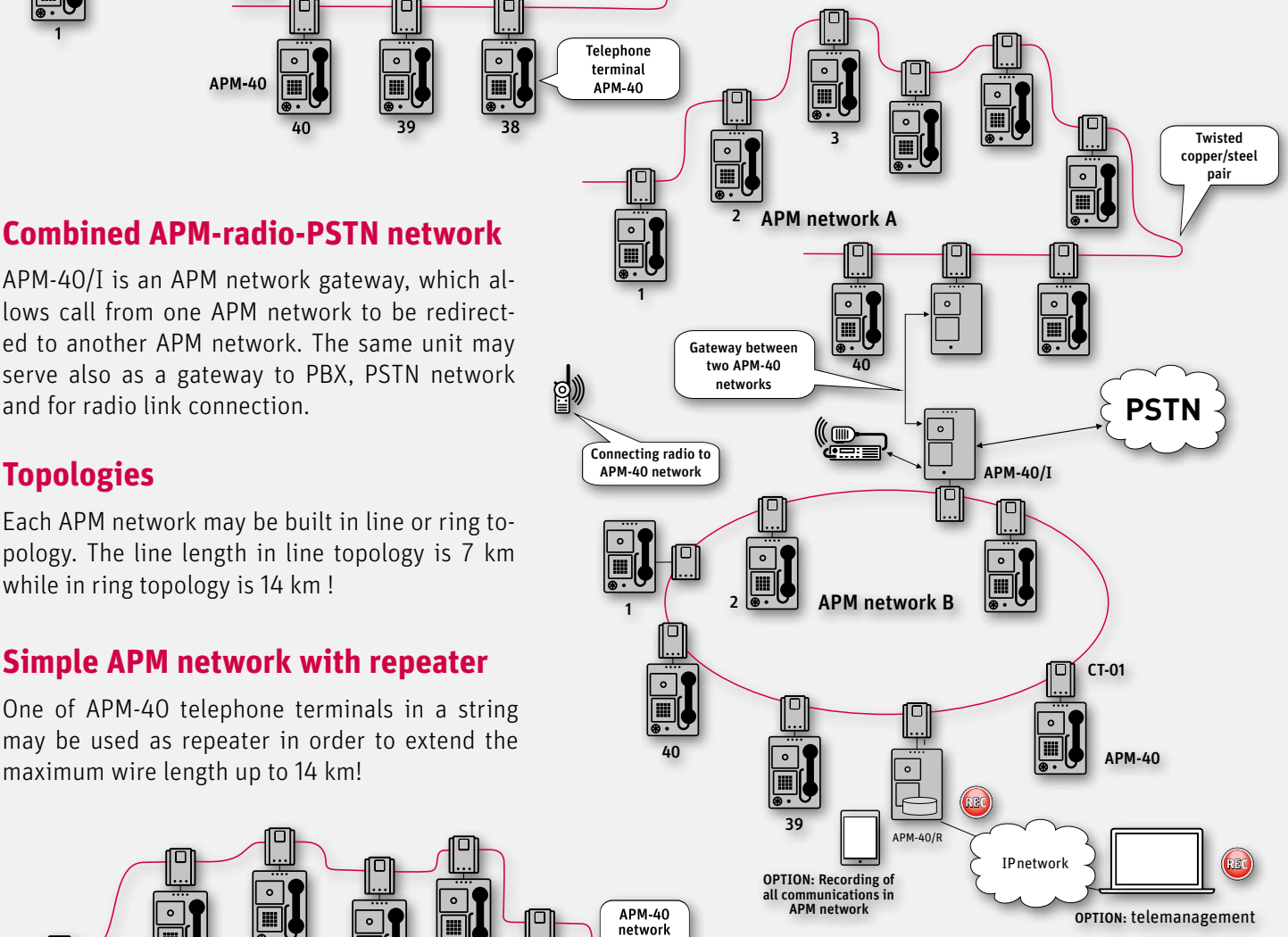
APM-40/I is an APM network gateway, which allows call from one APM network to be redirected to another APM network. The same unit may serve also as a gateway to PBX, PSTN network and for radio link connection.

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

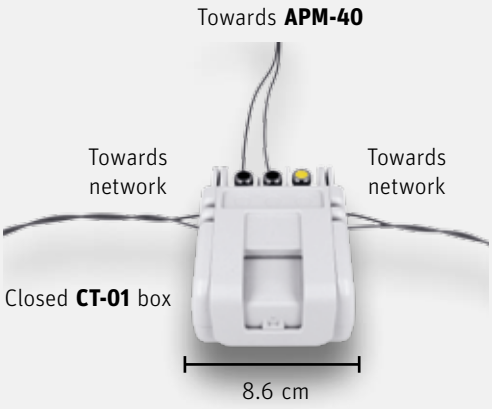
One of APM-40 telephone terminals in a string may be used as repeater in order to extend the maximum wire length up to 14 km!

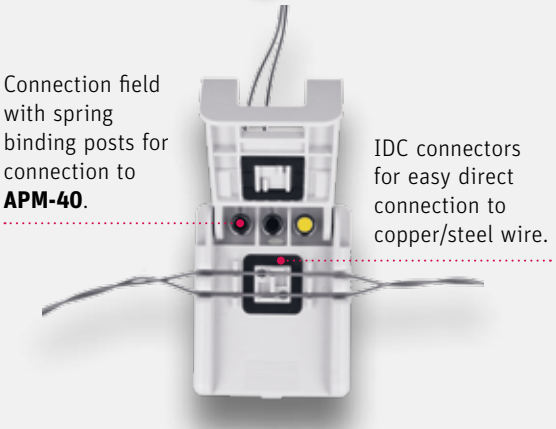


OTHER APM APPLICATIONS

- Underground communication:
  - in mines
  - in tunnels
  - In caves
- Refugee camps
- Sport events
- Big construction sites
- Etc.

Housing & IDC Connection Box





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

Type of equipment: Integrated analogue phone & multiplexer system.

Application: For humanitarian organizations, civil protection and disaster relief (flood, earthquake, tornado, fire, epidemic...), when there is a need for very fast and simple establishing communication between different points.

Medium: 1 copper/steel pair.

Max distance: 7 km (may be extended with Repeater up to 14 km) in line topology, 14 km in ring topology.

Topology: Line or ring.

Connection manipulation: Distributed, by means of keyboard (no switchboard needed).

Type of conversation: Duplex conversation, duplex conference call, broadcast simplex call.

Type of call: Selective, priority, call-back, broadcast, conference, priority conference.

Max number of units connected to one copper pair: 40 (devices uniformly distributed on line).

Max. number of users in conference: 10.

Powering: 6 x AA batteries (4 x C batteries as an option).

Optional local powering: 9-25 V DC (200 mA). Works with any polarity. May be powered directly by solar panel.

Speaker mode operation: Yes, with integrated high quality waterproof speaker.

Address setting: By means of 2 rotary switches or by configuration file by means of USB port.

SW upgrade: By means of configuration file (USB port or optionaly Bluetooth).

Housing: High resistance polycarbonat plastic box with detachable cover. IP grade: IP-67. Colour: by RAL standard.

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 (gateway) available in the same housing and supporting: PSTN, radio, another APM-40 network. All 3 interfaces in one box at the same time!

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

› It is possible to build a network of 40 APM-40 units along one twisted copper/steel pair (l = 7 km).

› Ultra low power consumption allows usage of standard AA batteries.

› System can handle 7 simultaneous full duplex voice connections. No PBX is needed for commutation.

› System allows distinctive ringing, call forwarding, call waiting, priority calls and other advanced features (option: answering machine).

› System allows 1 full duplex conference call for up to 10 users.

› OPTION: APM-40/R unit makes possible recording of all communications in the APM network and telemanagement via IP network.

› System allows calls via RADIO station, to PSTN network and to another APM-40 network.

mvm tel

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