

# Channelot 101



## CMMB Micro-Transmission Station

- **Low cost, fully integrated CMMB transmitter-site solution**
- **All-in-one single box includes satellite and wire-line interfaces, GPS receiver, modulator and adaptively pre-corrected HPA**
- **Compact and low power 2U 19"-rack enclosure**
- **Comprehensive remote management**



**Now with adaptive HPA pre-correction**

The Channelot 101 CMMB Micro-Transmission Station is a single-box implementation of a full-featured CMMB low-power transmission site. The Channelot 101 includes in one compact 2U-height enclosure all the functions needed at the point of deployment of the low-power transmitters that are becoming a key element to the large-scale deployment of CMMB mobile TV networks.

### Function

The Channelot 101 CMMB Micro-Transmission Station integrates all the functions needed at the low-power CMMB transmission site:

- Satellite and wire-line telecom interfaces for terminating the content distribution network
- Built-in GPS receiver for SFN network synchronization
- Full-featured CMMB modulator
- Built-in, up to 100W HPA, with higher power levels available through add-on modules – all adaptively pre-corrected
- Carrier-grade remote management and control

### Features and Benefits

The design of Channelot 101 integrates the best of breed in every sub-system category:

- State-of-the-art DVB-S2 / DVB-S satellite receiver.

- Wide selection of wired telecom network interfaces for integrated termination of PDH, SDH or packet-transport networks.
- GPS receiver with a "holdover" function based on a high-stability local oscillator.
- Full-featured CMMB modulator that supports MFN as well as SFN operation.
- Built-in adaptively pre-corrected HPA that provides 10W, 25W, 50W or 100W of output power at an unmatched level of signal integrity.
- Built for seamless integration with Channelot's add-on modules for implementation of fully integrated and managed 400W and 1 kW output-power product versions.
- Plug-in power supply modules for operation from AC or DC power, optionally available in a 1:1 load-sharing, fault-tolerant, hot-swappable configuration.
- A full suite of carrier-grade management and maintenance functions includes remote visibility of unit status; remote configuration; comprehensive event reporting and logging; and software upgradeability in the field – all through a web or an SNMP interface.
- Using an optional all-passive interconnection box, two Channelot 101 stations can be operated in a 1:1 hot-redundant configuration without the need for a separate controller.
- Housed in a 2 RU, 19" rack-mount chassis, Channelot 101 represents the ultimate in efficiency and space saving.



## Specifications

### Satellite Receiver

IF frequency	950-2150 MHz
Signal format	DVB-S2, DVB-S
Bit rate	4 – 90 Mbps

### Telecom Interface

Protocol	MPEG over UDP or RTP
Physical	100/1000 Ethernet over UTP 100/1000 Ethernet over fiber 1000 Ethernet over SDH Bridged Ethernet over E3/T3
FEC	Pro-MPEG CoP 3

### ASI Input Interface

Two ASI interfaces per EN 50083-9 Annex B, with auto-switchover.

### GPS Receiver

Receiver	12 channels
Antenna power	5V, 30 mA DC

### Modulator

Format	CMMB
Modulation	BPSK, QPSK, 16QAM
Bit interleaver	384 × 360
LDPC code rate	1/2, 3/4
Byte interleaver	Mode 1, 2, 3
Reed-Solomon code rate	(240,240), (240,224), (240,192), (240,176)
MFN operation	Including rate adaptation
SFN operation	Full signaling processing and synchronization

### RF Output

Frequency range	470 – 862 MHz
Channel bandwidth	8 MHz
Pre-correction	Linear Adaptive non-linear
Mask	-38 dB @ 4.2 MHz offset
MER	35 dB
Output power	10W, 25W, 50W, 100W Up to 1 kW with an add-on HPA

### Auxiliary Interfaces

Redundancy interface	Interconnecting two Channelot 101 stations for autonomous 1:1 hot redundancy
Logic inputs	For external event monitoring
Summary alarm	Dry contacts

### Management

Interface	100Base-T Ethernet or WAN
Protocol	Web (HTTP) and SNMP
Configuration	Manageable remotely; non-volatile memory-resident with back-up copy
Status	Readable remotely
Event notification	Web display and SNMP Traps
Software update	Remotely upgradeable in the field, with a built-in back-up copy

### Power

Power supply	-48V DC 100 – 240V AC 1:1 load-sharing, fault tolerant, hot swappable option
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# CHANNELOT

24 Raoul Wallenberg St., Tel Aviv 69719, Israel  
Tel. +972-3-769-8508 Fax +972-3-769-8510  
info@channelot.com, www.channelot.com

 Group