

# Channelot 105

## DVB-T/H Micro-Repeater Station



- **Low-cost, fully integrated on-channel or transposing repeater site solution**
- **All-in-one solution includes digital repeater and HPA**
- **On-channel digital echo canceller**
- **Comprehensive remote management**
- **Compact and low-power 2U 19"-rack kit**



**Now with adaptive  
HPA pre-correction**

The Channelot 105 DVB-T/H Micro-Repeater Station is an integrated implementation of a full-featured DVB-T/H low-power on-channel or transposing repeater site. The Channelot 105 includes in a compact 2U-height shelf all the functions required at the point of deployment of the low power repeaters that are becoming a key element to the large-scale deployment of digital TV and mobile TV networks.

### Function

The Channelot 105 DVB-T/H Micro-Repeater Station integrates all the functions needed at the low-power DVB-T/H repeater site:

- State of the art, on-channel or transposing digital repeater
- Low repeating delay for effective on-channel SFN operation
- Echo canceling technology, for input-output isolation enhancement
- Integrated 7.5W or 100W High Power Amplifier (HPA) with adaptive pre-correction
- Robust performance for plug-and-play application in challenging on-channel, outdoor wide-area scenarios
- Carrier-grade remote management and control

### Features and Benefits

- A state-of-the-art digital repeater supports on-channel (same frequency) or transposing (frequency translation) operation
- Low processing delay enables effective SFN operation
- Digital echo cancellation largely eliminates input-output isolation limitations
- Input Automatic Gain Control (AGC) and output power-level setting
- A built-in high-performance and high-efficiency HPA provides 7.5W or 100W of output power across the entire UHF band. Adaptive pre-correction ensures superior efficiency and signal repeating integrity
- A full suite of carrier-grade management and maintenance functions includes remote visibility of unit status; remote configuration; comprehensive event reporting and logging; software upgradeability in the field – all through either a web or an SNMP interface.
- Using an optional all-passive interconnection box, two Channelot 105 stations can be operated in a 1:1 hot-redundant configuration without requiring a separate controller.
- With a footprint of 2U of 19" rack space, the Channelot 105 represents the ultimate in efficiency and space saving.



## Specifications

### RF Input

Frequency	470 - 862 MHz
Frequency step	1 Hz
Channel bandwidth	6, 8 MHz
Level	-72 – -10 dBm -55 dBm nominal
Squelch	-72 – -10 dBm
Return loss	>16 dB
Noise figure	8 dB
Impedance	50Ω
Connector type	SMA (BNC optional)

### RF Output

Frequency range	470 – 862 MHz
Frequency step	1 Hz
Channel bandwidth	6, 8 MHz
Occupied bandwidth	5.7053 MHz (6 MHz Ch.) 7.6082 MHz (8 MHz Ch.)
Mask	-36 dB @ 3.2 MHz offset (6MHz channel) -36 dB @ 4.2 MHz offset (8 MHz channel)
Frequency accuracy	Better than 10ppm
Output BER	$<2 \times 10^{-4}$ (after Viterbi)
Pre-correction	Linear and non-linear
Spurious signals	-60 dBc (after external filter)
Output power	7.5W, 100W
Impedance	50Ω
Connector type	N (Female)

### Echo Cancellation

Maximum echo level	12 dB (echo power above signal power)
Echo attenuation	40 dB
MER loss	2 dB
Processing delay	up to 7 μS

### Auxiliary Interfaces

Redundancy interface	Interconnecting two Channelot 105 stations for autonomous 1:1 hot redundancy
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

Supply rail	100 – 240V AC -48V DC
Power consumption	750W (100W HPA)

### Size

Form factor	19" rack mounting
Height	2U

# 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

**RAD** Group