TELESTE RIS SYSTEM - HDM155 RIS CONTROLLER & RIS RECEIVERS

Teleste RIS (Remote Ingress Switching) system allows low cost ingress detection and countermeasures at headend. It consists of a head-end HDM155 RIS controller module and low-cost RIS receiver modules installed in the field equipment.

HDM155 is a Teleste RIS controller in HDO mechanics. It is the heart of the RIS system and communicates with RIS receiver modules (e.g. AC6915, AC6158, AC6188) via one-way forward path RF link.

HDM155 maintains a list of RIS receivers and their ingress switch statuses and provides Ethernet connectivity between network management system and the RIS system.

The RIS receiver modules are frequency agile, allowing free placement and change of the management channel within their tuning frequency range. They find the carrier automatically and control amplifier ingress switches based on received commands and local manual control.

Features of the RIS system

RIS controller module HDM155

- HDO module mechanics
- Frequency agile RF data transmitter
- Narrowband carrier fits also between channels or on diplexer rolloff band
- Front and rear panel 10/100Base-T Ethernet ports
- RIS receiver list stored in non-volatile memory
- Full management and configuration with Teleste CATVisor tools
- Supports broadcast messages to all RIS receivers simultaneously
- Continuously updates all RIS receivers via RF link
- Manages up to 5000 RIS receivers simultaneously

RIS receiver modules

- Frequency agile RF data receiver
- Automatic RIS data channel acquisition
- Local ingress switch control, with remote override
- Local RIS status indicator
- Addressing via unique factory-set MAC address visible in front panel sticker
- Ingress switch 0 dB / -6 dB / <-50 dB control individually for all ports

Technical specifications

Parameter	Specification	Note
RF link		
Data rate	9380 bps	
Modulation method	FSK, $\Delta f = \pm 25$ kHz	
Channel bandwidth	0.2 MHz	1)
Downstream frequency range	115…130 and 245…285 MHz	2)
Frequency inaccuracy	< 10 kHz	
Downstream output level range	80...105 dBµV	3)
Transmitter return loss (5...1218 MHz)	> 8 dB	
Transmitter spurious	< -60 dBc	4)
Ethernet interface, HDM155		
Connector	RJ-45 socket	
Standard	10/100Base-T	
General		
Power consumption	3 W	
RF connector	F female	
Dimensions	2U x 7HP x 380 mm	h x w x d
Weight	1.5 kg	
EMC compliance	EN 50083-2	
Enclosure classification	IP20	
Operating temperature range	0...+45 °C	

Notes

1) Typically < -60 dBc @ ±100 kHz (channel edge) and < -45 dBc @ ±50 kHz.

2) 0.25 MHz steps. See also RIS receiver specifications for supported frequency ranges.

3) Software adjustable, inaccuracy < 2 dB. The output level should usually be set so that it results in 3...10 dB backoff, i.e. 3...10 dB below analogue TV channel levels.

4) Transmitter spurious in 5...1218 MHz range, outside $f_c \pm 0.2$ MHz.

Block diagram, HDM155