

H.264 - DVB-T2/T Hand Held Receiver with KLV Metadata

The new MANO hand held is a high performance receiver with DVB-T2/T and ISDB-T demodulations with MRC Diversity 2. DVB-T2 modulation outperforms DVB-T modulation and offers much higher data rate, and therefore, higher quality signal or much more robust signal than DVB-T, enabling longer and more difficult links.

This receiver features H.264 and MPEG-2 decoder for high definition (HD) and standard definition (SD).

The video over IP optional output enables connectivity with PC via IP for monitoring of video and KLV Metadata with a Mision software.

Based on NTT H.264 compression technology, the new MANO offers the highest video quality with minimum end-to-end latency of 33 ms. For added security an encrypted transmitted signal can be decrypted using BISS or AES decryption technology.

The equipment is powered by V-mount batteries, which last three hours, or directly by DC power supply.



H.264 4:2:2

DVB-T2

FEATURES

- DVB-T2/T and ISDB-T Demodulations
- MRC Diversity 2 technique
- NTT H.264 compression technology
- Highest video quality up to 1080p/60 (3G-SDI)
- Lowest delay in H.264: 33 ms
- BISS-1 and BISS-E encryption
- 3G/HD/SD-SDI output
- DC power supply or V-mount batteries
- Alarm monitorization
- 13.3" sunlight readable screen
- Web Server interface
- Updatable via USB
- Milling aluminum block anodized

OPTIONS

- AES-128 and AES-256 Encryption
- Autotracking control (with compass)
- External Down-Converters
- KLV metadata embedded GPS extractor

APPLICATIONS

- Aircraft Down-Links
- KLV Metadata monitoring
- TS over IP diffusion
- Portable receiver
- High-performance decoder



Characteristics

RF

Frequency range:	1.3 to 10.5 GHz (In bands)
Diversity:	2 in DVB-T2 2 in DVB-T 2 in ISDB-T
Diversity technique:	MRC (Maximum Ratio Combining)

Demodulation

DVB-T2:	QPSK, 16QAM, 64QAM, 256QAM LDPC FEC: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6 IG: 1/4, 19/128, 1/8, 19/256, 1/16, 1/32, 1/128 Bandwidth: 1.7, 5, 6, 7, 8 MHz Max. bitrate: 46 Mbps
DVB-T:	QPSK, 16QAM, 64QAM FEC: 1/2, 2/3, 3/4, 5/6, 7/8 IG: 1/4, 1/8, 1/16, 1/32 Bandwidth: 5, 6, 7, 8 MHz Max bitrate: 31.67 Mbps

Decoder

H.264:	Profile: Baseline, Main, High, High 422 (Support 10 bits) Level: 4.1 - 4.2 Latency: 33 ms
MPEG-2:	Profile: 422P@HL, MP@HL, 422P@ML MP@ML
Audio decoder:	MPEG-1 Layer I/II

Encryption

BISS:	BISS-1 and BISS-E
AES:	AES-128 and AES-256 (Optional)

Video

Inputs:	1 x ASI, Video over IP
Outputs:	1 x SD-SDI, HD-SDI and 3G-SDI 1 x ASI 1 x TS over IP
Formats:	1080p (1920x1080) - 23,98/ 24/ 25/ 29.97/ 30/ 50/ 59.94/ 60 Hz 1080i (1920x1080) - 50/ 59.94/ 60 Hz 720p (1280x720) - 23,98/ 24/ 25/ 29.97/ 30/ 50/ 59.94/ 60 Hz 576i (720x576) - 50 Hz 480i (720x480) - 59,94 Hz

TS over IP:	Transport stream over IP output available for monitoring using Mision software (optional)
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Audio

Speakers:	2 speakers
Headphones:	1 Jack plug

Monitorization

Monitoring:	Decoding parameters Demodulation parameters Frequency and input level MER, BER, C/N Alarms, warnings, logbook and clock
Web server:	Remote control via Web Server interface

Power Supply

Batteries:	V-mount
DC input:	11 to 36 V

Mechanical

Size:	394 x 205 x 46 mm (Without battery)
Screen Size:	13.3 inch
Weight:	2.8 Kg



How to order

MANO-XXX-YYY*

(H.264 & Mpeg-2 - 4:2:2 DVB-T/T2 Hand Held Receiver)

Optional features (XXX)

000: Default	154: AUT	158: AES+IP+AUT	162: IFIN+AES+AUT
151: IFIN	155: AES+IP	159: IFIN+AES	163: IFIN+IP+AUT
152: AES	156: AES+AUT	160: IFIN+IP	164: IFIN+AES+IP
153: IP	157: IP+AUT	161: IFIN+AUT	

* Default unit includes 2 integrated Down-Converters, so it is needed to indicate DC Frequency Range (YYY) on P/N.

* DC Frequency Ranges (YYY) [only applicable for standard version with integrated DC]

01G: 1.300 to 1.550 MHz	05G: 5.000 to 5.400 MHz
02G: 2.000 to 2.700 MHz	06G: 6.200 to 6.700 MHz
03G: 3.400 to 3.700 MHz	07G: 6.700 to 7.200 MHz
04G: 4.400 to 5.100 MHz	10G: 10.000 to 10.500 MHz

IFIN 2 IF inputs (no down-converters included)
 AES: AES128/AES256 Decryption
 IP: TS over IP input/output
 AUT: Autotracking

Application example:

Portable Reception (@ 5GHz frequency band if default integrated DC):

MANO-000-05G	MANO-154-05G	MANO-158-05G	MANO-162
MANO-151	MANO-155-05G	MANO-159	MANO-163
MANO-152-05G	MANO-156-05G	MANO-160	MANO-164
MANO-153-05G	MANO-157-05G	MANO-161	MANO-165

Design and specifications are subject to changes without prior notice. 05/17