



MAIA Digital Transmitter

- DVB-T/H, ATSC, DAB/T-DMB, ISDB-T/Tb, DTMB, CMMB and DVB-T2 Standards

- Top-accuracy
- SFN Operation
- 100W, 50W, 25W and 5W output powers

- Available in Transposer and Gap-Filler versions

- Available in dual mode DVB-T and DVB-T2

Available Options:

- Digital Adaptive Precorrector
- Embedded GPS Receiver
- GbE input for ASI over IP
- DVB-S/S2 Receiver
- DVB-T Receiver
- SNMP and WEB Server card
- Integrated UHF or VHF Output
- Band-pass Filter (3RU)

MAIA is the outstanding, latest-generation, multi-standard platform for the transmission of Digital TV or Digital Radio signal up to a power of 100W RMS in a compact and simple to use unit.

The **MAIA** platform is available in the 100W, 50W, 25W and 5W RMS versions in a compact 2RU case (or in a solid 3RU case when the equipment is requested with the integrated UHF or VHF band-pass output filter).

MAIA has been created to support DVB-T/H, ATSC, DAB/T-DMB, ISDB-T/Tb, DTMB, CMMB and the recently launched DVB-T2 including the top class, user friendly Linear and Non-Linear Digital Precorrection functionality.

In the *dynaMAIA* version a high-end Digital Adaptive Predistortion (DAP) engine allows any Digital Transmitter to be operated at its maximum possible power level and, at the same time, exceeding the expectations of the user.

With DAP, the transmitter output is constantly monitored and adjusted to guarantee the maximum coverage in any operating condition.

An optional embedded GPS receiver allows perfect Single Frequency Network (SFN) operation.

The new **MAIA** Platform is also available in Repeater and Gap Filler (with excellent Echo Cancellation for SFN operation) versions, and in all the existing configurations, is controllable by PC through direct or remote connection by means of the renowned Elettronika RCU. Using an optional board, a powerful and appealing Web GUI, together with a robust SNMP control support, allows easy access to the exciter's control system by any wired or wireless network connection and a standard web browser.

Other options offered with the **MAIA** platform include: a Gigabit Ethernet board for ASI over IP management, a DVB-S/S2 receiver for satellite or microwave link TS delivery and a DVB-T receiver for digital terrestrial channel data stream reception.

Elettronika equipment is stringently tested in our professional laboratory and our ISO-9001 Quality Certification guarantees a perfectly managed production process.

Elettronika equipment for Radio and TV broadcasting is currently used worldwide by our valuable customers, which is the best certification for field performance over different operating environments.

DVB-T

DVB-H

DVB-T2

ATSC

DAB
Digital Audio Broadcasting

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Technical characteristics

SIGNAL PROCESSING SECTION

DVB-T/H	ATSC	DTMB	DAB/T-DMB	DVB-T2
ETSI EN 300 744 v.1.5.1	ATSC A/53, A/54, A/64	Gb20600-2006	ETSI ETS 300 401, ETS 300 799	ETSI EN 302 755, TS 102 831, TS 102 773
2k, 4k, 8k	8-VSB 2/3 Trellis Code	OFDM (4k), Single Carrier	I, II, III, IV	1k, 2k, 4k, 8k, 8kExt, 16k, 16Ext, 32k, 32kExt, System A, System B, Mul i-PLP
-	-	-	Supported	-
QPSK, 16QAM, 64QAM	8-VSB	4QAM-NR, 4QAM, 16QAM, 32QAM, 64QAM	D-QPSK	QPSK, 16QAM, 64QAM, 256QAM (normal and rotated)
1/2, 2/3, 3/4, 5/6, 7/8	2/3	0.4, 0.6, 0.8	-	1/2, 3/5, 2/3, 3/4, 4/5, 5/6
1/4, 1/8, 1/16, 1/32	-	1/9, 1/7, 1/4	-	1/128, 1/32, 1/16, 19/256, 1/8, 19/128, 1/4
Na ive, In-dep h MFN and SFN	-	Mode2 (240), Mode3 (720)	-	Adjustable Time Interleaving
8MHz, 7MHz, 6MHz, 5MHz	MFN	MFN and SFN	MFN and SFN	MFN, SFN-SISO, SFN-MISO
Linear and Non-Linear (option: DAP)	6MHz	6MHz, 7MHz, 8MHz	-	8MHz, 7MHz, 6MHz, 5MHz, 1.7MHz
User Adjustable	Linear and Non-Linear (option: DAP) User Adjustable	Linear and Non-Linear (option: DAP)	Linear and Non-Linear (option: DAP)	Linear and Non-Linear (option: DAP)
User Enabled	Enabled with Bitrate adaptation	User Adjustable	User Adjustable	User Adjustable
-	-	-	-	User Enabled
PRBS, Null Symbol Insertion, Spectrum Hole	23-bit PRBS Generator, Single Tone	PRBS Generator, Single Tone	User Defined or ETI-Controlled Central Carriers Removal	PRBS, Single-Tone, Spectrum Hole, Null Symbol Insertion

INPUT SECTION

DVB-T/H	ATSC	DTMB	DAB/T-DMB	DVB-T2
2 ASI (primary and secondary) SPTS/MPTS, Burst Mode, Continuous Mode	2 ASI (primary and secondary) SPTS/MPTS, Burst Mode, Continuous Mode	2 ASI (primary and secondary) SPTS/MPTS, Burst Mode, Continuous Mode	2 ETI with automatic switch ETI NI, ETI NA5592 and ETI NA5376	2 ASI + 2 GbE SPTS/MPTS, Burst Mode & Continuous Mode, IP, RTP, UDP, IGMP V2 & V3
188/204 bytes	188/204 bytes	188/204 bytes	-	188/204 bytes + GSE
Max 31.67Mbit/s	Max 19.392658Mbit/s	Max 32.49Mbit/s	2048kbit/s \pm 50ppm (ETI)	Max 50.34Mbit/s
10MHz on BNC, 50 Ohms, -15dBm to +15dBm	10MHz \pm 5ppm on BNC 50 Ohms, -15dBm to +15dBm	10MHz \pm 0.6ppm on BNC, 50 Ohms, -15dBm to +15dBm	10MHz on BNC, 50 Ohms, -15dBm to +15dBm	10MHz on BNC, 50 Ohms, -15dBm to +15dBm
1PPS on BNC	-	1PPS on BNC	1PPS on BNC	1PPS on BNC
TTL 0-5V	-	TTL 0-5V	TTL 0-5V	TTL 0-5V

OUTPUT SECTION

DVB-T/H	ATSC	DTMB	DAB/T-DMB	DVB-T2
UHF and VHF step 1Hz, L-band for dedicated DVB-H networks	UHF and VHF step 1Hz	UHF and VHF step 1Hz	VHF and L-band step 1Hz	UHF and VHF step 1Hz
100W, 50W, 25W or 5W	100W, 50W, 25W or 5W	100W, 50W, 25W or 5W	100W, 50W, 25W or 5W	100W, 50W, 25W or 5W
N type connector, 50 Ohms	N type connector, 50 Ohms	N type connector, 50 Ohms	N type connector, 50 Ohms	N type connector, 50 Ohms
< 60dB rel. tot. Pout	< -50dBc	< 60dB rel. tot. Pout	< 60dB rel. tot. Pout	< 60dB rel. tot. Pout
> 36dB	> 36dB	> 36dB	> 36dB	> 36dB
< -95dBc/Hz @10kHz	< -106dBc/Hz @20kHz	< -99dBc/Hz @10kHz	< -92dBc/Hz @10kHz	< -95dBc/Hz @10kHz
> 40dB non critical mask	> 47dB FCC Stringent Mask	> 40dB	> 40dB non critical mask	> 40dB non critical mask

GENERAL

Case 19" - 3RU/2RU - 17kg/14kg (with/without filter)
RS232/RS485 (PSTN, GSM, ETHERNET with RCU)
90-250VAC / 150VA max
0 - 50°C

GPS Receiver Option

3.3VDC / 50 Ohms
L1 frequency (1575.42 MHz)
12
 \pm 50ns

GIGABIT ETHERNET Card

From 100kb/s to 270Mb/s
188 or 204 bytes MPEG packet detection
PCR jitter as low as \pm 100ns, steady state
 \pm 0.3UI
1000Base-T full 1Gb/s throughput
ASI/SDI/SDTI BNC output streams

SNMP/WEB Server Card

HTTP 1.1
V1, V2, V3
RJ45 10/100 Mbps

DVB-T RECEIVER Card

VHF and UHF IEC female / 75 Ohms
EC female / 1dB
QPSK 1/2 Rate: -94 to -92.1dBm, 64QAM 2/3 Rate: -81 to -78.5dBm 64QAM 7/8 Rate: -77 to -74.7dBm -35dBm
QPSK 1/2 Rate: 4.8 to 5.6dB, 16QAM 3/4 Rate: 13.0 to 14.6dB 64QAM 2/3 Rate: 17.2 to 18.7dB, 64QAM 7/8 Rate: 21.3 to 22.5dB
DVB-ASI on BNC / 75 Ohms

DVB-S/S2 RECEIVER Card

950MHz - 2150MHz
F female / 75 Ohms
From -65dBm to -25dBm
QPSK / 8PSK
F female / 0dB
8dB (typ)
DVB-ASI on BNC / 75 Ohms
ISO/EC 13818 MPEG-2
SFN transport support

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Specifications with the other standards and/or output powers are available upon request - Specifications and characteristics are subject to change without notice Rev.2/5.11

