



ELTRONIKA SRL



VHF and UHF TV Transmitter
CAV Basic series

**5W-15W
OUTPUT POWER**

One of the goals while designing this apparatus was to obtain an apparatus easy to mount and in the logistic disposition of its components, yet aesthetically pleasant and functional. In detail:

- the filter and amplification stage has been made compact, while keeping a good ventilation to limit working temperature, by mounting it all on a single heat sink with a bent steel conveyor;
- all the linear voltage-stabilization stages on the mother board, as well as the temperature sensor, are placed on a staff mounted directly on the heat sink of the final stage, both to use the latter to cool the device and to monitor its temperature without the need of additional wires;
- all connectors and controls placed on the frontal panel are directly connected to the mother board;
- the connections between the mother board and the control board are made through a single 20-pin connector;
- the power supply of the final stage is made through the mother board which includes the shunt to measure the current absorbed by this stage;
- all wiring between the mother board and the other sections of the apparatus is made with detachable connectors (see clamps for power supply and control of the final stage) to make repair easier;
- the output connector of the transmitter, the air inlet of the cooling system of the final stage, the power supply box including the main switch and fuses, the telemeasuring connector and the external reference input, if any, have been placed on the back of the apparatuses.

Main features:

- Rack 19"-2U.
- Power supply: 115/230Vac 50/60Hz.
- Indication of the main parameters on LCD display (*Forward and Reflected power, Audio modulation, Synchronism level, Heat sink temperature, PLL control voltage, Power supply voltage and current absorbed by the final stage*).
- Alarm thresholds for FWD Power ($P_{out} + 20\%$), REF Power ($20\% P_{out}$) and Temperature ($70^{\circ}C$).
- Power supply input on IEC box with double fuse on the check.
- RF output with N connector on the rack.
- Video input with BNC connector on the frontal.
- Audio input with XLR connector on the frontal panel.
- IF link with SMB connector on the frontal panel.
- Level adjustment (Video, Audio, SC) with multi-turn trimmer on front panel.
- Single-cell pre-corrector, disabled from front panel.
- Automatic or manual gain control on front panel.
- Graphic 2Rx16C display with two selection keys and buzzer.

TECHNICAL SPECIFICATIONS

RF SECTION

Frequency range	470 - 860MHz
Output power	5 - 15W (Adj.)
Output power control	Automatic or manual (switch-selected)
Local oscillator	2,5ppm (option 0,05ppm)
I.M.D.	< -60dB (with IF-Precorrector)
Spurious and harmonics level	< -60dB
RF Output impedance	50
RF Output connector	N Female
Intermediate frequency	38.9 or 45.75MHz on request
IF Output level	-15dBm

AUDIO SECTION

Input	600 /10k balanced
Nominal level	2.2Vpp-10dB+6dB
Pre-emphasis	FLAT, 50µs, 75µs
Low-pass filter	15kHz, 100kHz
Limitation circuit	Dnom +1dB
Frequency response	0.5dB
THD	0.5%
Intermodulation	d2 -60dB, d3 -60dB
S/N FM CCIR Ratio	60dB weighted 60dB unweighted (ref. 50kHz)
S/N AM Ratio	70dB asynchronous 50dB synchronous (ref. 100%)
IF	30.5MHz... 41.25MHz
IF Level (on external link)	Adjustable

VIDEO SECTION

Input	75
Nominal level	1Vpp ±6dB
Return loss	30dB up to 5MHz
DC Recovery	Clamped to back porch
White limitation	90%... 115% not affecting chrominance
Group delay pre-corrector	8 Cells
Group delay	50ns (with professional vestigial filter)
Frequency response	±0.5dB
Differential gain	±5%
Differential phase	±5°
Luminance non-linearity	5%
S/HUM Ratio	45dB weighted
S/N Ratio	65dB weighted, > =55dB unweighted
Black level variation	2%
2T K Factor	1%
ICPM	2%
IF	32.7MHz... 45.75MHz
IF Level (on external link)	-15dBm... -10dBm

LOCAL OSCILLATOR

Frequency	50MHz... 900MHz split between band I, III, IV/V
Offset	±32kHz max
Frequency stability	±2.5ppm (-5°C... +45°C)
External reference	5MHz
Output level (on mixer)	60dB weighted
S/N FM CCIR Ratio	60dB unweighted (ref. 50kHz)

GENERAL

Power supply	110/230VAC, ±10%, 50/60Hz
Cabinet	Rack 19"-2U
Dimensions	482,6x88x400mm
Weight	8kg
Ambient temperature	-5° to +45°C
Humidity	20% - 90%

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