

## MiniStation Series - FM Broadband Exciters

### EX300 MiniStation - 300W Broadband FM Stereo Exciter



- ▶ \* 300W FM Exciter/ Transmitter
- ▶ \* Broadband 87,5-108,1MHz
- ▶ \* Stereo generator Included
- ▶ \* More punch, HI-FI VCO
- ▶ \* 220V Step-Down switched regulator
- ▶ \* Audio processor card available
- ▶ \* RS232 Interface
- ▶ \* Remote/Interlock Interface
- ▶ \* SCA and RDS inputs
- ▶ \* MOSFET DESIGN

MiniStation Series: Powerful FM Exciters|Transmitters, Reliable, Excellent Audio Quality CD, Stereo and Single Band Audio Processor Card Available.

The EX300 MiniStation is a complete FM Exciter/Transmitter. You can choose the frequency through the buttons located on the equipment front panel. Frequencies between 87,5 to 108,1MHz can be set by the user in 100kHz steps. The equipment is totally BROADBAND, this means, the RF power level stays the same independently of operation frequency.

The excellent audio quality is due to its hi-quality FM VCO, modulating through eight varicap diodes.

The EX300 has variable power output from 5W to 300W, this is important if you drive an external power amplifier (like High-power PowerCell combined series), this way, if your amplifier need about 250W to input this FM exciter is the most indicated.

Suitable for applications like FM exciter, the EX300 can also be used as stand alone transmitter.

The EX300 MiniStation has a stereo generator built-in, only connecting the audio cable from the mixer the FM station is on the air. Also, you can configure if your transmission is in MONO or STEREO mode - externally - just pressing the buttons on the front panel, and it's done.

All MiniStation series have an optional card called "Single Band Audio Processor - APCard-1" you can turn your MiniStation into even more powerful version. This card processes the audio from the mixer in a limited/compressed audio level, avoiding distortions on the audio modulation.

Also, if you have an external audio processor, the EX300 MiniStation has an option in its panel: you can configure the main audio input, if it is stereo generated internally to EX300 or externally, from the processor. To do this, you just need to press the buttons UP/DOWN and SELECT.

RDS encoders may be connected in the EX300 MiniStation, there are 2 inputs for these encoders: SCA input and 19KHz tone sync output.

The EX300 is available in American, European and also Japanese bands only pressing the overset of the equipment.

On the LCD display, parameters like operation frequency, FWD and Reverse power, Composite audio level, Left and Right audio level, selection of internal or external MPX, Stereo or Mono operating and others are shown. We present an easy to use interface in this exciter, easy to configure and operate.

The AC input is 220V (110V also available) "Step-Down" switched mode power supply, facilitating the main connections around the world, 47 to 63Hz.

The EX300 is a complete solution, offering superior audio performance and quality.

Get more information about EX300 in the following pages!

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#### EX300 LCD Panel, some configurations...

<b>FM FREQUENCY</b> 103,6 MHz s↑	Channel change directly on the front panel. You can choose the frequency from 87,5 to 108,1MHz.
<b>Fwd Power: 315W</b> <b>Rfl Power: 0W</b>	Forward and Reverse power are shown in real-time in percents. Automatic reducing power level when exceeded the SWR limit.
<b>Vpa: 42,6V &lt;Temp&gt;</b> <b>Ipa: 8,7A 28,8°C</b>	Voltage in the power amplifier stage, including total current and what is the temperature in the heatsink can be monitored in this view.
<b>Audio Modulator:</b> M-0000000	The audio level that modulates the VCO is shown in this LCD menu, very important to know if the modulation is distorting your FM transmitter.
<b>L-0000000000</b> <b>R-0000000</b>	Left and Right audio levels are monitored in this view. You can know if both channels are ok.
<b>RFI Protection</b> Max. Level: 35W	You can set the maximum Reverse power admitted, if the limit is more than the set, the RF power output is turned off, protecting the equipment.
<b>Mpx Selection:</b> -Int. Ext.	External audio processor or STL links might be connected, only setting to External MPX.
<b>Internal Mpx:</b> -Stereo Mono	You can select if the audio transmission is in Stereo or Mono only pressing the button UP/DOWN.
<b>Audio Processor:</b> -ON OFF	Once installed the audio processor card, this view will appear, you can set if this card will be operating or not.
<b>Config_Hold:</b> -Enable Disable	After configured the parameters you want, you can choose this option to ENABLE, this way nobody may modify your personal configurations.

#### EX300 Front panel overview:



#### EX300 Visual-cabinet overview:



#### EX300 Rear panel overview:

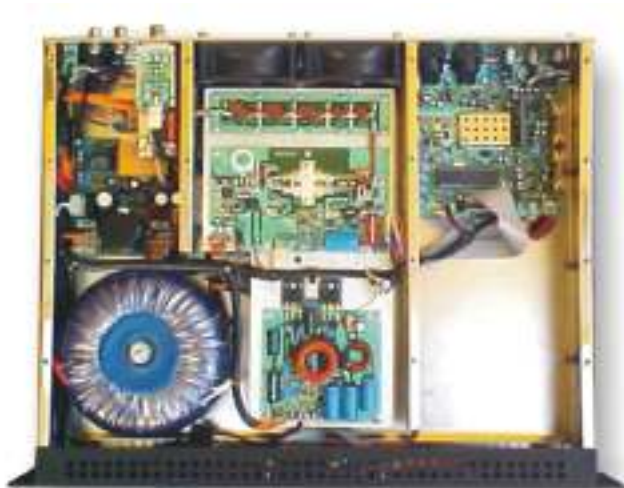


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### EX300 MiniStation - 300W Broadband FM Stereo Exciter

#### EX300 Internal Overview



Low Pass Filter and RF Power Output Stage

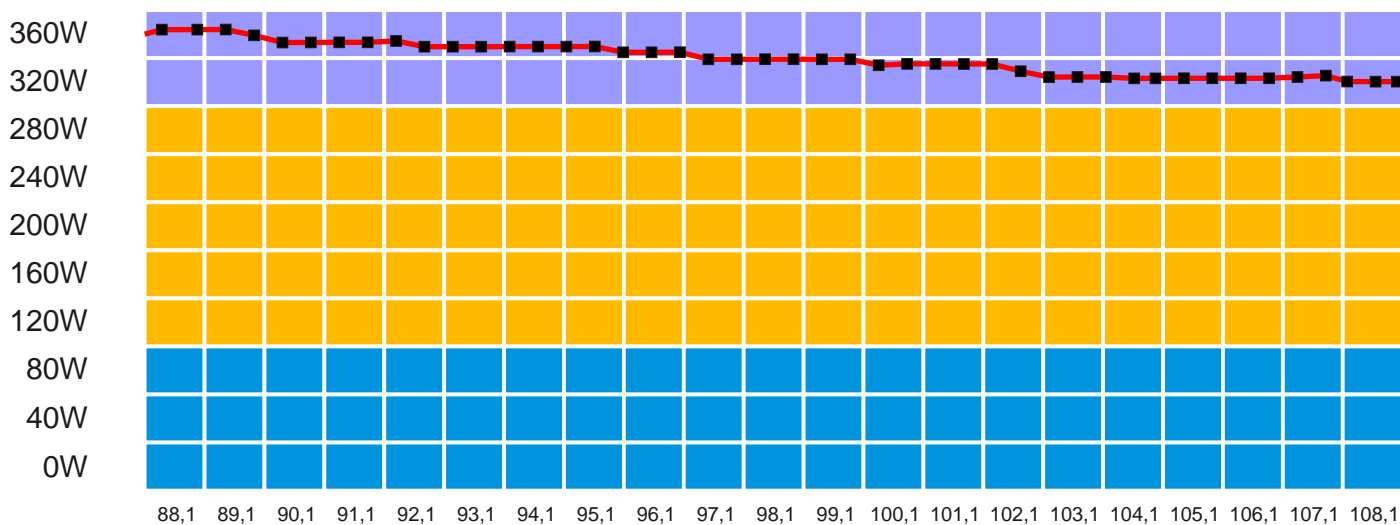


DC-DC Power Step-Down Converter



Toroidal Transformer

#### RF Power Output:



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### Technical Features:

#### RF Features:

Output Power:	320W +/- 5% variation across the band
RF Output Impedance:	50 Ohms
RF Output Connector:	N Female
Frequency Range:	76.0 to 98MHz and 87.5 to 108,1MHz
Frequency Step:	Default 100kHz, selectable for 200kHz or others under request
Frequency Programmability:	UP/DOWN Keys, safety hold programmable on the front panel
Frequency Stability:	5 ppm, 2 or 1 ppm under request
Type of Modulation:	F3, FM direct modulation (RF oscillator directly on the frequency)
Harmonic and Spurious Attenuation:	>80dBc
Residual AM modulation (Assyncr.)	Approximately 0,05% (55dB)
Residual AM modulation (Syncr.)	Approximately 0,1% (65dB)
Intermodulation Distortion:	<0,05% @ 1kHz
Frequency Response Capability:	20Hz to 200kHz

#### Power Supply:

AC Input:	220V 47-63Hz +/- 20% Variation
DC Input:	Not available in this version
AC Surge Protection:	3 Varistor 285V, gas discharger and fuse
Power Supply Efficiency:	90% or better in 220V AC
Switching Frequency:	100kHz
Power Consumption:	Approximately 400W from AC
AC Input Connector:	IEC socket connector

#### General Features:

Weight:	12,5kgs net weight
Dimensions:	483mm (6") wide, 88,90mm (2 RU) high, 355mm (14") deep
Ambient Temperature Range:	0 to +45 Degrees Celsius
Maximum Humidity:	95% at +45C without condensation

#### CPU and Display Features:

CPU:	PIC Processor, microcontrolled with Sintek Ex300 Software V.1.0
Memory:	Non-volatile, retention >40 years
Full Micro-controlled protections:	PLL out of lock, VSWR exceeded
Panel Keys Control:	UP/DOWN freq. St or Mono, Int or Ext MPX, Config Hold
LCD Display:	16 columns, 2 lines, green back light

#### Audio Inputs Left&Right:

Input Connectors:	XLR Female
Internal Jumper selection for:	50 or 75us stereo pre-emphasis
Input Impedance:	600 Ohms unbalanced
Frequency Response:	20Hz to 15kHz (THD+N < 0,1%)
Input Level:	0dB for 75kHz carrier deviation
Stereo Separation:	Better than 45dB @ 1kHz
Pilot Tone Frequency/Stability:	19kHz +/- 1Hz

#### MPX Input:

Input Impedance:	10k Ohms Unbalanced BNC Connector
Frequency Response:	20Hz to 200kHz +/- 1dB for 75kHz deviation

#### SCA Input:

Input Impedance:	10k Ohms Unbalanced BNC Connector
Frequency Response:	15kHz to 200kHz +/- 1dB for 75kHz deviation

#### RDS Tone Sync Output:

Output Impedance:	10k Ohms Unbalanced BNC Connector
19kHz sync frequency level:	Fixed 1Vpp

\* Specification subject to change without notice

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