

# IBOC FM Solutions

25W to 250W Translators

**NEW**

**Encore Series**

**IBOC FM Translator**

**25W to 250W**



# Encore



**IBOC FM Translator  
(Model: DRT-01)**

**NEW Encore Series – IBOC FM Translator**

**Encore**

***Applaud Innovation.***

**Customer driven and purpose designed for optimum digital FM performance – we bring you innovation in FM broadcast technology from ‘start to success’.**

The new Encore Series is a complete IBOC FM translator solution – combining field proven translator and linear amplifier technology. The first digital FM translators of its kind, the new Encore Series is feature rich with proven performance.

*Applaud Innovation.* The technology driving Encore was developed through combining specialized television and radio broadcast design techniques. Incorporating TV transmitter amplifier designs and applying them to digital radio, the Encore IBOC FM Translator delivers unrivaled digital FM radio quality sound.



Highly linear amplifiers and custom designed IF filtering enable optimum reception and output power in digital operation. The result is a level of quality, linearity, and clarity that commands attention.

The Encore IBOC FM Translator Series is designed for FM stations leading the way to digital by implementing IBOC (In-Band On-Channel) digital radio rebroadcast operation.

LARCAN's innovative Encore Series is a complete solution to meet all the needs of your future digital FM radio business.

Integrating leading edge filtering and new linear conversion technologies, the Encore Series of translators takes the digital FM signal and translates / repeats it – keeping the IBOC digital signal intact. The result is an IBOC FM translator that delivers the original analog FM signal and the digital portion of the signal together to your audience.

**The Encore Series is available from 25W to 250W, providing an affordable and complete IBOC FM translator solution.**



**25W-100W FM Amplifier  
(Model: LA-100)**



**'LARCAN True Technology' is a symbol of our renowned broadcast technology. Our award winning designs and technology 'inside' is a unique and integral part of all our broadcast solutions.**

**We bring you new digital broadcast technologies from Digital television to Digital Radio and beyond.**

# IBOC FM Solutions

*25W to 250W Translators*

**NEW**

## **Encore Series**

### **IBOC FM Translator**

*25W to 250W*

#### **Features:**

- **Extensive Power Range**  
Power Levels from 25W to 250W (Separate Linear Amplifier)
- **Superior IBOC FM Performance & Coverage**  
Integrated Features & Adaptable to Meet Your Rebroadcast Needs
- **Capable of all Standards in Analog FM and IBOC Digital Radio**  
Proven technology meets the stringent rebroadcast criteria adopted.
- **Field Proven for Digital**  
Encore Series is a complete system including: IBOC FM Translator and linear FM amplifier. Choose FM amplifier from 25W-100W or 100W-250W.
- **Broadband Design, Frequency Agile**  
Encore Series innovative translator system design employs unique transmitter amplification stages. Enables receiving of low level IBOC signals and rebroadcast without any degradation.
- **Fully Regulated Power Supplies**
- **Compact and Reliable**
- **Integrated Cooling System designed for extreme conditions**

**Encore Series  
IBOC FM Translator  
25W to 250W**



**Translator Series:** **Encore Series**  
**Models:** *DRT-25 (= DRT-01 + LA-25)*  
*DRT-100 (= DRT-01 + LA-100)*  
*DRT-250 (= DRT-01 + LA-250)*  
**Specification:** **IBOC**

**Receiver**

RF Input Connector	BNC 50 ohm
Frequency Band	88-108MHz
Frequency Stability	± 1ppm
Synthesized Channel Increments	100kHz
RF Channel Bandwidth (-3dB)	2.5MHz
Image Rejection (@ -21.4MHz)	≥ 85dB
Noise Figure	≤ 6dB
I.F. Frequency	10.7MHz
I.F. Response @ ±200kHz	≤ 0.25dB
I.F. Response @ ±800kHz	≤ 80dB
Group Delay Response @ ±53kHz	≤ 100nS
Group Delay Response @ ±200kHz	≤ 400nS
Rx Mute (user adjustable)	≤ 100uV
FM Stereo S/N Ratio @ 1mV	≥ 70dB
FM Stereo Separation (30Hz-15kHz)	≥ 50dB
FM Stereo Distortion (30Hz-15kHz)	≤ 0.15%

**Translator - Specification (DRT - 01)**

RF Output Connector	BNC 50 ohm
Frequency Band	88-108MHz
Frequency Stability	± 1ppm
Synthesized Channel Increments	100kHz
RF Channel Bandwidth (-3dB)	3MHz
Image Rejection (@ Carrier - 21.4MHz)	≥ 80dB
Harmonics	≤ -60dBc
RF Output Range (user adjustable)	-30dBm to +6dBm max
Dual AGC Loop (Rx and Tx)	Dual Pin attenuator control
PLL Out of Lock Attenuation	≥ 50dB

**Environmental**

Operating Temperature	-10°C to +45°
Operating Altitude	≤ 2500m
A/C Power Requirement via IEC (DRT-01)	110V ± 15% @ 18VA
A/C Power Requirement via IEC (LA-25)	110V ± 15% @ 60VA
A/C Power Requirement via IEC (LA-100)	110V ± 15% @ 500VA
A/C Power Requirement via IEC (LA-250)	110V ± 15% @ 1000VA
Dimensions: W x D x H (DRT-01) 1U	485mm x 300mm x 44mm
Dimensions: W x D x H (LA-25) 2U	485mm x 300mm x 88mm
Dimensions: W x D x H (LA-100) 2U	485mm x 300mm x 88mm
Dimensions: W x D x H (LA-250) 4U	485mm x 430mm x 176mm
Physical Mass	4kg (DRT-01), 7kg (LA-25), 9kg (LA-100), 19kg (LA-250)

**Amplifier- Specifications (LA-25, LA-100, LA-250)**

	<u>25W Linear Amplifier:</u> (LA-25)	<u>25W-100W Linear Amplifier:</u> (LA-100)	<u>100W-250W Linear Amplifier:</u> (LA-250)
RF Input connector	BNC 50 ohm	BNC 50 ohm	BNC 50 ohm
RF Output connector	N Type 50 ohm	N Type 50 ohm	N Type 50 ohm
Frequency band	88-108MHz	88-108MHz	88-108MHz
Harmonics	≤ -70dBc	≤ -70dBc	≤ -70dBc
RF output range (user adjustable)	5W to 30W max	20W to 110W max	80W to 270W max
Input return loss	≥ 20dB	≥ 20dB	≥ 20dB
Class of operation	Class A	Class A	Class A
Gain flatness	≤ 1dB	≤ 1dB	≤ 1dB
Intermodulation (2 Tone)	≤ -35dBc	≤ -35dBc	≤ -35dBc
Spurious	≤ -70dBc	≤ -70dBc	≤ -70dBc
Nominal input power	3dBm	3dBm	3dBm

**Metered Parameters:**

- Receive Field Strength
- FM Baseband Level
- Digital Carrier Indicator
- RF Forward Power
- RF Reflected Power
- Amplifier Heatsink Temperature

*\*Please Note: Specifications are preliminary and subject to change.*