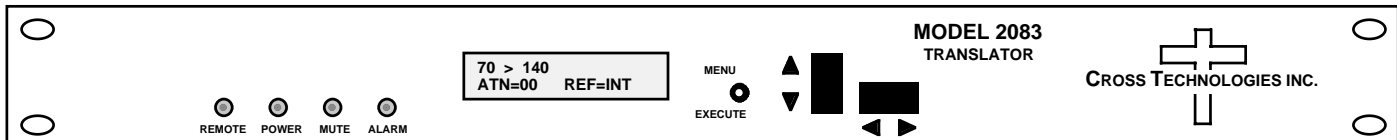


2083-714A Agile IF to IF Translator

The 2083-714 Frequency Translator converts 70 MHz to 110-170 MHz or 110-170 MHz to 70 MHz with no spectrum inversion, low group delay, and flat frequency response. The IF input signal is mixed with synthesized local oscillator (LO) signals, first to 1750 MHz and finally to the IF output signal. Multifunction push button switches select the frequency translation, attenuation (0 to 10 dB, adjustable), and 10 MHz reference. These three settings appear on the LCD display. Front panel LEDs light when DC power is applied (green), a PLL alarm occurs (red), the signal is muted (yellow), or remote control is active (yellow). A 10 MHz input allows for connection of an external 10 MHz reference. The 10 MHz output contains the 10 MHz reference signal (be it internal or external). Connectors are BNC female for the IF input and output and 10 MHz input and output. The 2083-714A is housed in a 1 3/4" X 19" X 16" deep rack mount chassis. **Option -H** provides a ± 0.01 ppm high stability reference.



2083-714A TRANSLATOR

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Input Impedance/RL	75 Ω /18 dB
Frequency, 70 to 140	70 MHz
Frequency, 140 to 70	110 to 170 MHz
Input Level	-10 to -20 dBm
Input 1 dB compression	0 dBm

Output Characteristics

Impedance/RL	75 Ω /18 dB
Frequency, 70 to 140	110 to 170 MHz
Frequency, 140 to 70	70 MHz

Channel Characteristics

Attenuation	0 to 10 \pm 0.5 dB, selectable in 1dB steps
Spurious Response	<-50 dBC in band ;< -50 dBC out of band
Bandwidth	36 MHz, \pm 0.5 dB; 40 MHz, \pm 1.0 dB
Group Delay, max	0.01 ns/MHz ² , parabolic, 0.03 ns/MHz, linear, 1 ns ripple 36 MHz BW
10 MHz In/Out Level	+3 dB \pm 3 dB
Frequency Sense	Non-inverting

Synthesizer Characteristics

Frequency Accuracy	\pm 1.0 ppm internal reference (\pm 0.01 ppm, option -H)
10 MHz Reference	Internal or External (selectable)
Step Size	1 MHz, 110 to 170 MHz center frequency (140 MHz end)
Phase Noise (dBC/Hz)	< -80 @ 1 kHz; < -88 @ 10 kHz; < -100 @ 100 kHz; < -110 @ 1 MHz

Controls, Indicators

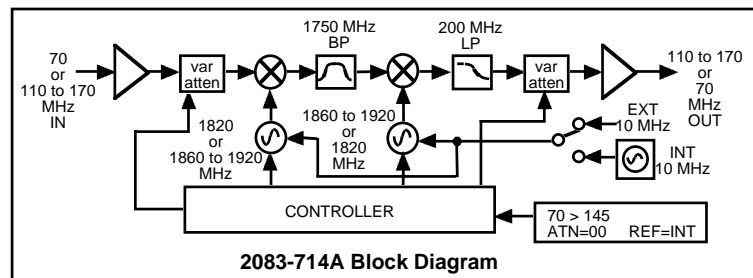
Frequency Translation	pushbutton switches; setting shown on LCD display
Gain Selection	pushbutton switches; setting shown on LCD display
Pwr; Alm; Mute; Remote	Green LED; Red LED; Yellow LED; Yellow LED

Other

IF & 10MHz Connectors	BNC, female, 75 ohm
Alarm Connector	DB9 - NO or NC contact closure on Alarm
Size	19 inch standard chassis 1.75" high X 16.0" deep
Power	90 - 260 VAC, 47 - 63 Hz, 30 watts max.

Options

- H	High Stability, \pm 0.01 ppm internal reference
Connector options	Contact Cross



2083-714A Block Diagram

*+10°C to +40°C; Specifications subject to change without notice