ZEUS *Technology Systems, Inc.*
Technical Data Sheet

ZFC-571/-581
Frequency Up- / Down-Converter

DESCRIPTION

The **ZFC-57**1 converts a 70 MHz IF to a frequency between 1 and 40 MHz, as determined by the user. The input, centered at 70 MHz, is first filtered by one of four selectable high performance filters, amplitude leveled by an onboard AGC, then translated to baseband (1-40 MHz). The unit uses phase linear SAW translation filters as well as phase noise optimized synthesizers to provide excellent performance for complex modulated signals including QAM. The baseband center frequency is selectable either by dip switches or remotely via an RS-232 interface. The output frequency can be adjusted between 1 and 40 MHz in 100 KHz increments. An auxiliary baseband input allows a second converter's output or other similar signal (FDM baseband) to be summed into the output signal path. The amplitude of the combined signal will be adjusted by the AGC to provide equal amplitude for the two input signals. By selectively adjusting frequency offsets and successively summing the results through multiple converters, several Ifs may be multiplexed together to form a single baseband output. If a single baseband conversion is desired)non-multiplexed), the unit can be set to automatically select the optimum center frequency for the bandwidth selected. Nonvolatile internal memory automatically stores the entire configuration. If a power failure occurs, the unit will reset itself to the configuration it was in before the power failure. This will occur whether the configuration was set via dip switches or RS-232.

The **ZFC-581** provides precisely complementary functions. The input, centered between 1 and 40 MHz, is first processed by one of four selectable high performance filters, then translated to an IF of 70 MHz. The filters provide adjacent channel rejection. The **ZFC-581** also uses SAW Transversal filters and phase noise optimized synthesizers to provide excellent performance for complex signals including QAM. Similarly, the baseband center frequency, adjustable in 100 KHz increments, is selectable by dip switches or remotely via

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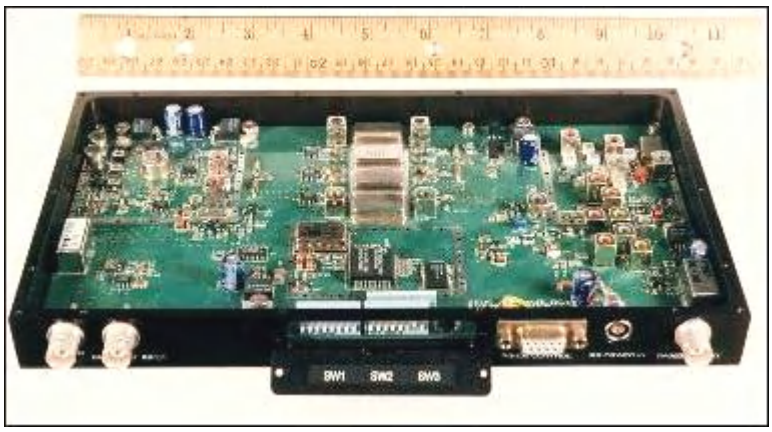
RS-232. The **ZFC-581** can de-multiplex a signal from among several by selecting the appropriate input center frequency; as many of the multiplexed signals as desired can be provided by using the appropriate number of upconverters. If a single, non-multiplexed baseband conversion is selected, the unit can be set to automatically select the proper center frequency for the bandwidth chosen. As with the **ZFC-571**, non-volatile memory protects against power failures.



ZFC-571/ -581 SPECIFICATIONS

	ZFC-571 IF to Baseband	ZFC-581 Baseband to IF
Input Center Frequency	70 MHz (140 MHz optional)	User selectable, 1-40 MHz via RS-232 or Dip switches
Input level range, input level	-60 dBm to -10 dBm	1 V p-p, nominal
Output Center frequency	User selectable, 1-40 MHz via RS-232 or Dip switches	70 MHz (140 MHz optional)
Output / Input bandwidth (-3dB)	8, 12, 24, and 50 MHz (others optional)	8, 12, 24, and 50 MHz (others optional)
Impedance - all Signal Ports	50 Ohms	50 Ohms
Image rejection	> 35 dB nominal	> -40 dBc
Output level	1.0 V p-p +/-0.2 V (+2.3 dBm into 75 Ohms)	-18 dBm, nominal (80 mV p-p)
Gain variation	<+/- 1.0 dB (over 90% of the band)	- -
Passband Ripple		+/- 1 dB, max
AGC Threshold / Response time	-65 dBm, typ / 50 mSec, nom	-
Power	+10 - +17 VDC, 0.5 A, max	+10 - +17 VDC, 0.5 A, max
Temperature - Operating	0 - 50 degrees C	0 - 50 degrees C
Dimensions	10.0"L x 5.5"W x 1.0"H	10.0"L x 5.5"W x 1.0"H

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