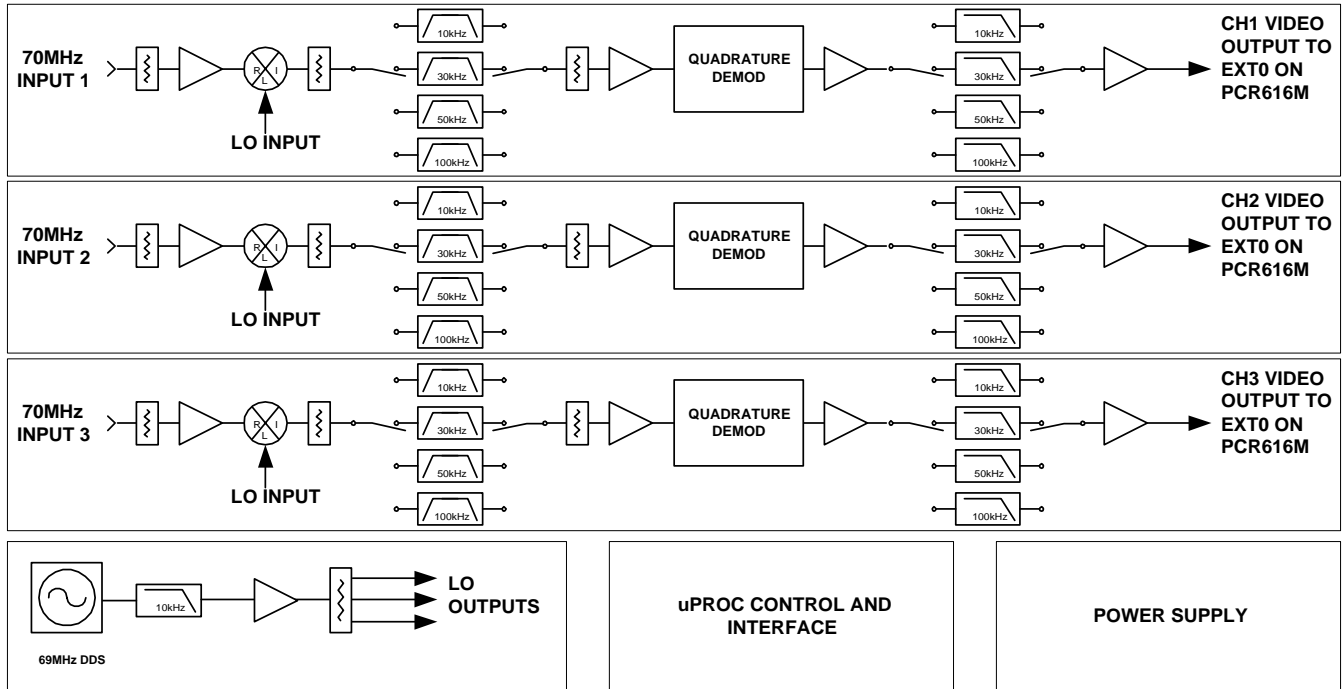




PCR604NB Narrow-Band IF Receiver/Demodulator



The PCR604NB is a solution to the current conflict between Wideband and Narrowband receiver functionality. It is impractical to realize a bandpass filter of 200 kHz or less when using a 70MHz IF. Many flight test ranges have upgraded to wideband (70MHz) receivers over the last 10 years, and are facing a serious problem when data rates less than 200 Kbps are still required. Bit rates as low as 10 kbps are not fully supported by modern wideband receivers (such as the RC600A, RC400 and R200 series receivers), and narrowband receivers (such as the Microdyne 1200-MRC) are no longer available. The PCR604NB PCI card is a solution to providing support of data rates down to 10 kbps. When used in conjunction with the PCR616M IF Receiver card in the RC600A, RC400 and/or the R200 series wide band receivers, the PCR604NB supports low data rate analog PCM/FM data rates to less than 10 kbps by providing three channels of 10kHz, 30kHz, 50kHz, and 100kHz IF bandwidth selection, a quadrature FM demodulator suitable for low rate detection, and low pass filtering required in support of these lower data rates.

The PCR604NB input is up to three 70 MHz filtered, linear IF outputs (CH1, CH2 and Combiner). The 70MHz IF is then down-converted to 1 MHz using a Direct Digital Synthesizer (DDS) Local Oscillator (LO). The 1 MHz signals are then bandpass filtered and demodulated. The video signal is low pass filtered, and then switched back into the associated PCR616M IF Receiver card for further processing. On the PCR616M card, the signal is directed through a Variable Gain Amplifier (VGA), additional low pass filtering, and then presented to the cross-point output switch for distribution. Four copies of the baseband signal are provided (Video 0, Video 1, Video 2 and Video 3).



Specifications

Input:

Center Frequency	70MHz
Level	0 dBm to -15 dBm
Impedance	50 Ohms Nominal
VSWR	<1.5:1

Signal Processing:

IF Frequency	1 MHz
IF Bandwidths	10 kHz, 30 kHz, 50 kHz, 100 kHz (User Selectable)
Demodulation	Quadrature FM Demodulation
Baseband Filters	10 kHz, 30 kHz, 50 kHz, 100 kHz
Outputs	3 independent video streams at 1vp-p 50 kHz peak-to peak deviation (user-controlled)

Form Factor:

Full PCI and ISA