

SIGNAL PROCESSING SUBSYSTEMS AND COMPONENTS



- AFC Subsystems
- AGC Amplifiers
- Modulators/Demodulators
- IF, DC-Coupled and Distribution Amplifiers
- Group Delay Equalized IF Filters
- Multifunction Components



 AFC Subsystems

 AGC Amplifiers

 Modulators/Demodulators

 IF, DC Coupled & Distr. Amps.

 Group Delay Equalized IF Filters

 Multifunction Components

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DIGITALLY-LOCKED PULSED AFC SUBSYSTEM

DAFC SERIES



The DAFC series digitally-locked AFC subsystem offers truly state-of-the-art performance in automatic frequency control of free-running sources. Through the use of high-speed digital signal processing, the DAFC series processes mixed samples from a system's free-running source (usually a transmit signal), and a receiver's local oscillator in a closed-loop to provide an error-correction drive that tracks the drifting source within kHz accuracy. Standard features include an input limiter to allow guaranteed operation over the specified dynamic range and sample and hold circuitry to avoid an out-of-lock condition resulting from lost transmitter pulses (transmit dead time), typical of most magnetrons. The DAFC series is designed to be used as an off-the-shelf processor for new system designs, or as an enhancement to existing systems. MITEQ offers technical assistance to meet the requirements of a particular system design.

FEATURES

- Ultra-accurate stability
- Remote capability
- Digital/analog capture range processing
- Very fast capture with integrated VCO

MODEL NUMBER	CENTER FREQUENCY (MHz, Nom.)	AFC CAPTURE RANGE (\pm MHz)	DIGITAL CAPTURE RANGE (\pm MHz)	ACCUMULATED ACCURACY *			
				250 ns PULSE (kHz, Max.)	500 ns PULSE (kHz, Max.)	1 μ s PULSE (kHz, Max.)	10 μ s PULSE (kHz, Max.)
DAFC-21/6	21.4	3	1.5	350	150	100	15
DAFC-30/10	30	5	2	250	125	75	10
DAFC-35/14	35	7	2.5	250	125	75	10
DAFC-60/20	60	10	4	200	100	75	10
DAFC-160/40	160	20	10	175	100	75	10

* Accumulated accuracy is the settled response over multiple pulse bursts. Minimum operating pulse width (PW) is 250 ns. Minimum PRF is 160 Hz.

ELECTRICAL SPECIFICATIONS

Input power range.....	-4 to 4 dBm
Minimum PRF.....	160 Hz
Acquisition time	
VCO drive.....	Programmable
STALO drive.....	Dependent on STALO protocol
AFC locking range.....	See specification table
Digital AFC locking range.....	±2 MHz
Hold-in range.....	Entire STALO or VCO band
Tracking speed.....	100 kHz to 100 MHz per second
AFC output	
VCO drive.....	±10 volts (into 1000 ohm) (1.2 mV resolution)
STALO drive.....	BCD or serial (RS232, RS422, RS485) (1 kHz resolution)
Update rate.....	10 ms to 10 s
Programmable resolution.....	10 ms
TTL alarms.....	AFC course/fine lock indicator signal detection
Sweep range.....	Matched to VCO or STALO tuning range
Remote control.....	TTL or optional serial (RS232, RS422, RS485)
Operating temperature.....	0 to 50°C
Storage temperature.....	-54 to +85°C
Humidity.....	95%, 40°C noncondensing

PRIMARY POWER REQUIREMENTS

DC power.....	1 amp @ +15 volts
	150 mA @ -15 volts
	4 amps @ +5 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions.....	9.5" x 12.8" x 7"
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CONNECTORS

IF input.....	SMA female
AFC gate input.....	SMA female
BCD correction and status output.....	37-pin, D type
Binary correction output.....	25-pin, D type
Control input.....	15-pin, D type
DC power/ground.....	9-pin, D type

OPTIONS

- DA1** Integrated microwave input mixer.
- DA2** Digital or analog auto-sweep acquisition mode.
- DA3** Programmable start/stop sweep (positive or negative).
- DA4** High voltage output (for VCO source).
- DA5** Input gated AGC amplifier.
- DA6** Coherent oscillator (COHO) output.
- DA7** Low phase noise integrated STALO.
- DA8** Integrated VCO.
- DA9** Input dead-time (missing RF pulses) ride through.

PULSED IF INPUT ANALOG AFC PROCESSOR

AFCP SERIES

The AFC processor is a conventional analog-type processor used in systems to lock a local oscillator (LO) to a frequency "xx" MHz higher than the transmitted RF pulse, where "xx" is the system IF frequency. The received signal is mixed with the LO signal to produce an IF signal. The doppler shift is detected as an offset from the IF output. The AFC processor is primarily used in pulsed radar receivers for Moving Target Indicators (MTI) systems.



FEATURES

- Stable detected output with low offset and drift
- Very low output droop rate (level decay) from pulse-to-pulse update

MODEL NUMBER	CENTER FREQUENCY (MHz)	PEAK-TO-PEAK BANDWIDTH (MHz)	TRANSFER SLOPE (V/MHz)	PULSE WIDTH (μs)	DROOP RATE (μV/ms)
AFCP-5-21.4-6	21.4	6	0.8	0.5	75
AFCP-8-30-10	30	10	0.5	0.4	75
AFCP-16-60-20	60	20	0.25	0.2	60
AFCP-20-70-24	70	24	0.2	0.18	60
AFCP-28-140-40	140	40	0.15	0.125	60
AFCP-30-160-60	160	60	0.125	0.100	60

SPECIFICATIONS

IF INPUT

IF input level -13 to -5 dBm (see Options)
 IF input pulse repetition 100 to 10,000 PPS
 IF monitor output level -23 to -15 dBm
 DC output range ±1.75 volts minimum (see Options)

PRIMARY POWER REQUIREMENTS

DC power 240 mA @ +15 volts
 75 mA @ -15 volts

PHYSICAL

Dimensions 2.38" x 6" x .93"

CONNECTORS

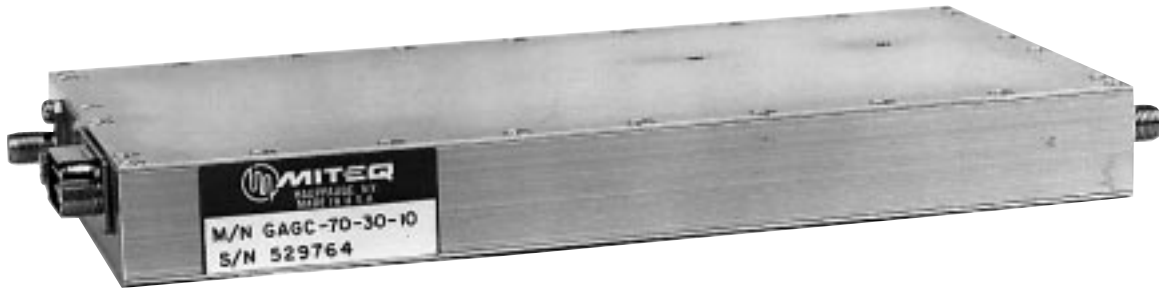
IF input SMA female
 IF output SMA female
 IF monitor SMA female
 DC power, AFC feedback 15-pin male, D type

OPTIONS

- A1** Negative transfer slope.
- A2** Up to ±10 volt output drive (customer to specify).
- A3** Positive gate output.
- A4** Higher IF input level (customer to specify).

GATED AGC AMPLIFIER

GAGC SERIES



The gated AGC amplifier receives IF pulsed signals as narrow as 250 ns in the range of -65 to 0 dBm and maintains the output level to 0 dBm. The GAGC response time is 35 pulses of the input signal and will maintain the dynamic range accuracy at PRF \geq 160 Hz. The primary application for the GAGC amplifier is in pulsed radar receivers.

FEATURES

- Digital/analog processing feedback circuitry
- Wide input dynamic range
- Excellent AGC tracking accuracy
- Fast AGC response time

ELECTRICAL SPECIFICATIONS

INPUT

Input frequency	30 MHz (see Options)
IF bandwidth	> 10 MHz (see Options)
Input level	-65 to 0 dBm (see Options)
Input impedance	50 or 75 ohms available
Input VSWR	1.5:1
Burst IF pulse width	500 ns
Pulsed repetition frequency (PRF)	\geq 160 Hz
Gate input	\geq 250 ns
Gate input impedance	50 ohms
Gate input VSWR	1.5:1

OUTPUT

Output level.....	0 dBm (see Options)
AGC output level adjust range	\pm 3 dB
Output impedance	50 ohms
Output VSWR	1.5:1

TRANSFER CHARACTERISTICS

AGC response time (PRF \geq 160 Hz)	35 PRFs for Δ Pin \leq 65 dB to within specified accuracy
AGC tracking accuracy	< \pm 2.5 dB, Pw \geq 250 ns
	< \pm 2 dB, Pw \geq 500 ns
	< \pm 1.5 dB, Pw \geq 2 μ s

PRIMARY POWER REQUIREMENTS

DC power.....	160 mA @ +15 volts
	75 mA @ -15 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions 3.5" x 6.65" x 0.75"

CONNECTORS

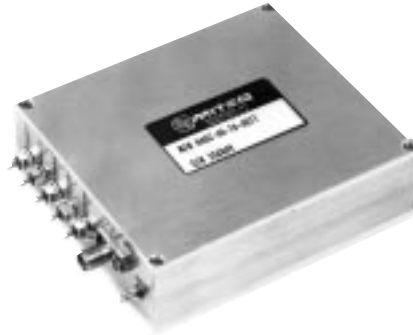
IF input..... SMA female
Filtered IF monitor SMA female
Gated output..... SMA female
Error output/DC power/ground 9-pin male, D type

OPTIONS

- GA1** Input frequency (customer to specify).
- GA2** Input level (customer to specify).
- GA3** Output level (customer to specify).
- GA4** Wider IF bandwidth (customer to specify).

HIGH-PERFORMANCE COMMUNICATION AUTOMATIC-CONTROL AMPLIFIER MODULE

HAGC SERIES



HAGC series amplifiers provide constant output power over the entire input dynamic range automatically. Optionally, these amplifiers can be supplied with linearizers (dB/volt) for customized applications. These amplifiers are used in communication systems, such as satellite receivers, telemetry receivers and radar receivers.

FEATURES

- Excellent passband gain flatness
- Very low gain variation through dynamic range
- Low noise figure
- Wide input dynamic ranges available

MODEL NUMBER *	CENTER FREQ. (MHz)	FREQ. SPAN (MHz)	DYNAMIC RANGE (dB)	GAIN FLATNESS (dB)	AGC GAIN VAR. (dB)
30 MHz IF					
HAGC-40-30-20-I/O	30	20	40	0.15	0.5
HAGC-50-30-20-I/O	30	20	50	0.15	0.4
HAGC-60-30-20-I/O	30	20	60	0.2	0.4
HAGC-70-30-20-I/O	30	20	70	0.25	0.5
70 MHz IF					
HAGC-40-70-40-I/O	70	40	40	0.15	0.5
HAGC-50-70-40-I/O	70	40	50	0.20	0.4
HAGC-60-70-40-I/O	70	40	60	0.25	0.4
HAGC-70-70-40-I/O	70	40	70	0.3	0.5
140 MHz IF					
HAGC-40-140-40-I/O	140	40	40	0.25	0.5
HAGC-50-140-40-I/O	140	40	50	0.25	0.4
HAGC-60-140-40-I/O	140	40	60	0.25	0.4
HAGC-40-140-80-I/O	140	80	40	0.5	0.5
HAGC-50-140-80-I/O	140	80	50	0.5	0.5
HAGC-60-140-80-I/O	140	80	60	0.5	0.5
HAGC-70-140-80-I/O	140	80	70	0.6	0.6
160 MHz IF					
HAGC-40-160-40-I/O	160	40	40	0.25	0.4
HAGC-50-160-80-I/O	160	80	50	0.5	0.5
HAGC-70-160-80-I/O	160	80	70	0.6	0.6
200 MHz IF					
HAGC-40-200-40-I/O	200	40	40	0.25	0.4
HAGC-50-200-80-I/O	200	80	50	0.5	0.5
HAGC-70-200-80-I/O	200	80	70	0.6	0.6

* I = Input impedance; O = Output impedance.
For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

COMMON ELECTRICAL SPECIFICATIONS

Input/output impedance 50 or 75 ohms
Input return loss > 18 dB
Noise figure < 8 dB
Output power 0 dBm
Output return loss > 18 dB

PRIMARY POWER REQUIREMENTS

Current/voltage 150 mA @ +15 volts
40 mA @ -15 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions 2.1" x 2.1" x .75"

CONNECTORS

Input/output SMA female
DC power Feedthru terminal
Housing ground 2-56 terminal

OPTIONS

- HAG-1** Output test monitor port (impedance is the same as the main output).
- HAG-2** Other input frequencies (customer to specify).
- HAG-3** Wider frequency span (customer to specify).
- HAG-4** Other dynamic range (customer to specify).

HIGH-PERFORMANCE COMMUNICATION VARIABLE GAIN-CONTROL AMPLIFIER MODULE

HVGC SERIES



HVGC series amplifiers provide continuous gain adjust with the application of external control voltage. These amplifiers are used in IF transmit/receive chains to enable the user to adjust the gain as necessary to compensate for the insertion loss of the integrated modules. Optionally, the gain variation versus control voltage can be linearized (dB/volt) through the entire dynamic range for customized applications.

FEATURES

- Excellent passband gain flatness
- Wide input dynamic ranges available
- Low noise figure

MODEL NUMBER *	CENTER FREQUENCY (MHz)	FREQUENCY SPAN (MHz)	DYNAMIC RANGE (dB)	GAIN FLATNESS (dB)
30 MHz IF				
HVGC-40-30-20-I/O	30	20	40	0.15
HVGC-50-30-20-I/O	30	20	50	0.15
HVGC-60-30-20-I/O	30	20	60	0.2
HVGC-70-30-20-I/O	30	20	70	0.25
70 MHz IF				
HVGC-40-70-40-I/O	70	40	40	0.25
HVGC-50-70-40-I/O	70	40	50	0.2
HVGC-60-70-40-I/O	70	40	60	0.2
HVGC-70-70-40-I/O	70	40	70	0.3
140 MHz IF				
HVGC-40-140-40-I/O	140	40	40	0.25
HVGC-50-140-40-I/O	140	40	50	0.25
HVGC-60-140-40-I/O	140	40	60	0.25
HVGC-40-140-80-I/O	140	80	40	0.5
HVGC-50-140-80-I/O	140	80	50	0.5
HVGC-60-140-80-I/O	140	80	60	0.5
HVGC-70-140-80-I/O	140	80	70	0.6
160 MHz IF				
HVGC-40-160-40-I/O	160	40	40	0.25
HVGC-50-160-80-I/O	160	80	50	0.5
HVGC-70-160-80-I/O	160	80	70	0.6
200 MHz IF				
HVGC-40-200-40-I/O	200	40	40	0.25
HVGC-50-200-80-I/O	200	80	50	0.5
HVGC-70-200-80-I/O	200	80	70	0.6

* I = Input impedance; O = Output impedance.

For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

COMMON ELECTRICAL SPECIFICATIONS

Input/output impedance	50 or 75 ohms
Input return loss	> 18 dB
Noise figure.....	< 8 dB
Output power	0 dBm
Output return loss	> 18 dB
Gain control	External voltage or multiturn potentiometer

PRIMARY POWER REQUIREMENTS

Current/voltage	150 mA @ +15 volts
	40 mA @ -15 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions	2.1" x 2.1" x .75"
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CONNECTORS

Input/output	SMA female
DC power	Feedthru terminal
Gain control voltage.....	Feedthru terminal
Housing ground	2-56 terminal

OPTIONS

- HVG-1** Output test monitor port (output impedance is the same as the main output).
- HVG-2** Other center frequencies (customer to specify).
- HVG-3** Wider frequency span (customer to specify).
- HVG-4** Other dynamic ranges (customer to specify).

HIGH-PERFORMANCE WIDE BANDWIDTH AND WIDE DEVIATION FM MODULATOR MODULES

MOD-70 AND MOD-140 SERIES



The MOD-70 and MOD-140 series FM modulators are specifically designed for wide baseband FM modulation centered at 70 and 140 MHz respectively. These modulators offer excellent baseband-to-IF and differential gain/phase characteristics. The applications of these modulators are in satellite communications and test equipment.

FEATURES

- Excellent linearity and group delay characteristics
- Excellent modulation frequency response
- Wide deviations

MODEL NUMBER *	PEAK-TO-PEAK DEVIATION (MHz)	LINEARITY (±%)	LINEAR GROUP DELAY (ns/MHz)	PARABOLIC GROUP DELAY (ns/MHz ²)
70 MHz IF FM MODULATORS				
MOD-70-10-0.5-I/O	10	0.5	0.05	0.002
MOD-70-20-0.5-I/O	20	0.5	0.05	0.002
MOD-70-30-1.25-I/O	30	1.25	0.04	0.003
MOD-70-30-0.75-I/O	30	0.75	0.04	0.003
MOD-70-36-1.25-I/O	36	1.25	0.045	0.003
MOD-70-36-0.75-I/O	36	0.75	0.045	0.003
MOD-70-40-1.25-I/O	40	1.25	0.045	0.003
140 MHz IF FM MODULATORS				
MOD-140-20-0.5-I/O	20	0.5	0.05	0.002
MOD-140-30-0.75-I/O	30	0.75	0.04	0.003
MOD-140-36-1.0-I/O	36	1	0.045	0.003
MOD-140-40-1.0-I/O	40	1	0.045	0.003
MOD-140-50-1.5-I/O	50	1.5	0.045	0.003

* I = Input impedance; O = Output impedance.
For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

COMMON ELECTRICAL SPECIFICATIONS

IF OUTPUT

Frequency stability	±10 kHz
Impedance	50 or 75 ohms
Return loss.....	20 dB minimum
Carrier level	0 dBm, others available (see Options)
Carrier level stability	±0.15 dB maximum
Flatness	±0.35 dB maximum

BASEBAND CHARACTERISTICS

Frequency response	10 Hz to 6 MHz, ±0.25 dB maximum
	10 Hz to 10 MHz, ±0.35 dB maximum
Sensitivity.....	36 MHz/volts nominal (see Options)
Input impedance	50 or 75 ohms
Input return loss.....	26 dB minimum to 10 MHz

PRIMARY POWER REQUIREMENTS

Current/voltage	550 mA @ +15 volts
	140 mA @ -15 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions	5.3" x 2.9" x 1.2"
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CONNECTORS

Input/output.....	SMA female
DC power, housing ground	9-pin male, D type

OPTIONS

MOD1	Fixed modulator sensitivity (customer to specify).
MOD2	Modulator sensitivity adjust (customer to specify).
MOD3	Output IF level adjust (customer to specify).
MOD4	Modulator IF frequency (customer to specify).

HIGH-PERFORMANCE WIDE BANDWIDTH AND WIDE DEVIATION FM DEMODULATOR MODULE

IFDMLIM SERIES

The IFDMLIM series FM demodulators have excellent IF-to-baseband characteristics in their respective operating bands. These demodulators receive FM modulated carriers at different center frequencies and recover the baseband information with high fidelity. The application of these demodulators are in satellite communications and test equipment.



FEATURES

- Excellent IF-to-baseband characteristics
- Excellent baseband frequency response
- Wide deviations

MODEL NUMBER *	PEAK-TO-PEAK DEVIATION (MHz)	LINEARITY (±%)	LINEAR GROUP DELAY (ns/MHz)	PARABOLIC GROUP DELAY (ns/MHz ²)	TOTAL GROUP DELAY (ns)
21.4 MHz FM DEMODULATORS					
IFDMLIM-21.4-6-1.5-I/O	6	1.5	-	-	4
IFDMLIM-21.4-8-2.0-I/O	8	2	-	-	5
IFDMLIM-21.4-10-2.5-I/O	10	2.5	-	-	5
30 MHz FM DEMODULATORS					
IFDMLIM-30-8-1.2-I/O	8	1.2	-	-	4
IFDMLIM-30-10-1.5-I/O	10	1.5	-	-	4.5
IFDMLIM-30-15-2.0-I/O	15	2	-	-	5
70 MHz FM DEMODULATORS					
IFDMLIM-70-10-0.5-I/O	10	0.5	0.04	0.01	-
IFDMLIM-70-20-0.75-I/O	20	0.75	0.05	0.04	-
IFDMLIM-70-30-1.5-I/O	30	1.5	0.03	0.007	-
IFDMLIM-70-30-1.0-I/O	30	1	0.025	0.006	-
IFDMLIM-70-36-1.25-I/O	36	1.25	0.03	0.006	-
IFDMLIM-70-36-1.0-I/O	36	1	0.03	0.006	-
IFDMLIM-70-40-1.25-I/O	40	1.25	0.04	0.006	-
140 MHz FM DEMODULATORS					
IFDMLIM-140-20-0.75-I/O	20	0.75	0.05	0.04	-
IFDMLIM-140-30-0.75-I/O	30	0.75	0.025	0.006	-
IFDMLIM-140-36-1.25-I/O	36	1.25	0.03	0.006	-
IFDMLIM-140-40-1.25-I/O	40	1.25	0.04	0.006	-
IFDMLIM-140-50-1.5-I/O	50	1.5	0.04	0.006	-
160 MHz FM DEMODULATORS					
IFDMLIM-160-20-0.75-I/O	20	0.75	0.05	0.04	-
IFDMLIM-160-30-0.75-I/O	30	0.75	0.025	0.006	-
IFDMLIM-160-36-1.25-I/O	36	1.25	0.03	0.006	-
IFDMLIM-160-40-1.25-I/O	40	1.25	0.04	0.006	-
IFDMLIM-160-50-1.5-I/O	50	1.5	0.04	0.006	-
IFDMLIM-160-60-1.8-I/O	60	1.8	0.04	0.006	-

* I = Input impedance; O = Output impedance.

For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

COMMON ELECTRICAL SPECIFICATIONS

Input impedance	50 or 75 ohms
Input return loss	20 dB minimum
Input level	-5 to +8 dBm (see Options)
Baseband output frequency response.....	10 Hz to 6 MHz, ± 0.25 dB maximum
	10 Hz to 10 MHz, ± 0.5 dB maximum
Demodulation sensitivity	40 mV/MHz nominal (see Options)
Output impedance	50 or 75 ohms
Output return loss	26 dBm minimum to 10 MHz

PRIMARY POWER REQUIREMENTS

Current/voltage	250 mA @ +15 volts
	60 mA @ -15 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions	6.6" x 2.9" x .75"
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CONNECTORS

Input/output.....	SMA female
DC power, housing ground.....	9-pin male, D type

OPTIONS

IFDM1	Demodulation sensitivity (customer to specify).
IFDM2	IF input level (customer to specify).
IFDM3	IF baseband level adjust (customer to specify).
IFDM4	IF input center frequency (customer to specify).

HIGH-PERFORMANCE COMMUNICATION IF AMPLIFIER

HIA SERIES



MODEL NUMBER *	FREQUENCY (MHz)	GAIN (± 0.5) (dB, Min.)	GAIN VARIATION (\pm dB, P-P)	GROUP DELAY VARIATION (ns, Max.)	VSWR (Max.)	NOISE FIGURE (dB, Max.)	1 dB COMP. (dB, Min.)	DC POWER SUPPLY (volts/mA)
HIA-2-50-15-I/O	2 – 50	15	0.1	1	1.2:1	-	12	15 / 40
HIA-2-50-20-I/O	2 – 50	20	0.1	1	1.2:1	-	12	15 / 60
HIA-2-50-30-I/O	2 – 50	30	0.15	1	1.2:1	-	15	15 / 85
HIA-50-90-10-I/O	50 – 90	10	0.05	0.25	1.25:1	-	12	15 / 45
HIA-50-90-20-I/O	50 – 90	20	0.1	0.5	1.25:1	-	12	15 / 60
HIA-50-90-30-I/O	50 – 90	30	0.15	0.5	1.25:1	-	15	15 / 90
HIA-100-180-10-I/O	100 – 180	10	0.2	1	1.3:1	-	12	15 / 50
HIA-100-180-20-I/O	100 – 180	20	0.2	1	1.3:1	-	12	15 / 70
HIA-100-180-30-I/O	100 – 180	30	0.25	1	1.3:1	-	15	15 / 95
HIA-2-200-30-I/O	2 – 200	30	0.25	**	1.8:1	2	10	12 / 45
HIA-2-200-38-I/O	2 – 200	38	0.25	**	1.8:1	2	16	12 / 115
HIA-10-400-30-I/O	10 – 400	30	0.35	**	1.8:1	2.2	10	12 / 45
HIA-10-400-38-I/O	10 – 400	38	0.35	**	1.8:1	2.2	16	12 / 115
HIA-20-1000-32-I/O	20 – 1000	32	0.35	1	2:1	2.4	10	12 / 95
HIA-20-1000-40-I/O	20 – 1000	40	0.35	1	2:1	2.4	16	12 / 95
HIA-50-1500-32-I/O	50 – 1500	32	0.35	1	2:1	2.6	10	12 / 95
HIA-50-1500-40-I/O	50 – 1500	40	0.35	1	2:1	2.6	16	12 / 95
HIA-100-2000-32-I/O	100 – 2000	32	0.35	1	2:1	3.2	10	12 / 95
HIA-100-2000-40-I/O	100 – 2000	40	0.35	1	2:1	3.2	16	12 / 95

* I = Input impedance; O = Output impedance.

For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

** 2 to 20 MHz > 2 ns.

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions 1.3" x 7" x 1.5"

CONNECTORS

Input/output SMA or BNC female available, models up to 200 MHz,
SMA above 200 MHz.

DC power Feedthru terminal

Housing ground 2-56 terminal

OPTIONS

HIA-1 Slope adjustment of ± 0.2 dB minimum, if required, for compensating intra-system modules or system interconnections (models up to 180 MHz).

HIGH-PERFORMANCE ULTRA WIDEBAND DC-COUPLED AMPLIFIERS

WDCA, GBDA AND DCA SERIES



MODEL NUMBER *	BANDWIDTH (MHz)	GAIN (dB)	OUTPUT POWER (dBm)	INPUT OFFSET (mV)	GAIN FLATNESS (dB)	IN/OUT IMPEDANCE (ohms)
DUAL SUPPLY						
WDCA-1046100-I/O *	0 – 100	46	10	< 1	< 0.75	50 or 75
WDCA-1040200-I/O *	0 – 200	40	10	< 1	< 1	50 or 75
WDCA-1020500-I/O *	0 – 500	20	10	< 10	< 1	50 or 75
GBDA-1016100055	0 – 1000	16	10	< 10	< 1	50 only
GBDA-1014150055	0 – 1500	14	10	< 10	< 1	50 only
GBDA-1010200055	0 – 2000	10	10	< 10	< 1	50 only
SINGLE SUPPLY						
DCA-1836120-I/O *	0 – 120	36	18	< 5	< 0.5	50 or 75

* I = Input impedance; O = Output impedance.
For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

PRIMARY POWER REQUIREMENTS

Current/voltage

WDCA series.....	< ±150 mA @ ±15 volts
GBDA series	< ±200 mA @ ±15 volts
DCA series	< ±400 mA @ +15 volts only

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions 1.8" x 2.9" x .9"

CONNECTORS

Input/output.....	SMA or BNC female available (SMA only for GBDA series)
DC power.....	Feedthru terminal
Housing ground	2-56 terminal

STROBED-INPUT OFFSET-CANCELING WIDEBAND HIGH-GAIN DC-COUPLED AMPLIFIER

SWDCA SERIES



The SWDCA series amplifier cancels any DC offset at the input of the amplifier due to input changing condition (such as I/Q outputs from mixers, where DC output offset change with respect to LO power and frequencies) via a strobed-input signal pulse. This enables the amplification of the desired signal and not the DC offset.

MODEL NUMBER*	BANDWIDTH (MHz)	INPUT CANCELING RANGE (\pm mV)	GAIN (dB)	OUTPUT POWER (dBm)	INPUT OFFSET (mV)	GAIN FLATNESS (dB)	IN/OUT IMPEDANCE (ohms)
SWDCA-1046100-I/O	0 – 100	6	46	10	< 0.4	0.5	50 or 75
SWDCA-1040200-I/O	0 – 200	6	40	10	< 0.5	0.5	50 or 75

* I = Input impedance; O = Output impedance.
For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

PRIMARY POWER REQUIREMENTS

Current/voltage < \pm 100 mA @ \pm 15 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions 3" x 4" x .75"

CONNECTORS

Input/output SMA or BNC female available

Housing ground 2-56 terminal

HIGH-PERFORMANCE VARIABLE-GAIN DC-COUPLED AMPLIFIER

VGDCA SERIES



MODEL NUMBER *	BANDWIDTH (MHz)	VARIABLE GAIN (dB)	OUTPUT POWER (dBm)	INPUT OFFSET (mV)	GAIN FLATNESS (dB)	IN/OUT IMPEDANCE (ohms)
VGDCA-153510-I/O	0 – 10	20 – 35	15	< 0.05	< 0.1	50 or 75
VGDCA-203510-I/O	0 – 10	20 – 35	20	< 0.25	< 0.1	50 or 75
VGDCA-153515-I/O	0 – 15	20 – 35	15	< 0.30	< 0.1	50 or 75
VGDCA-203515-I/O	0 – 15	20 – 35	20	< 0.40	< 0.1	50 or 75
VGDCA-105033-I/O	0 – 33	0 – 50	10	< 0.5	< 0.4	50 or 75
VGDCA-103050-I/O	0 – 50	0 – 30	10	< 1	< 0.4	50 or 75
VGDCA-1010100-I/O	0 – 100	0 – 10	10	< 1	< 1	50 or 75
VGDCA-106200-I/O	0 – 200	0 – 6	10	< 1	< 1	50 or 75

* I = Input impedance; O = Output impedance.
For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

PRIMARY POWER REQUIREMENTS

Current/voltage < ±50 mA @ ±15 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions 1.8" x 2.9" x .9"

CONNECTORS

Input/output SMA or BNC female available
 DC power Feedthru terminal
 Housing ground 2-56 terminal

DUAL-CHANNEL GAIN/DELAY-MATCHED WIDEBAND DC-COUPLED AMPLIFIER

DWDCA SERIES



MODEL NUMBER *	BANDWIDTH (MHz)	GAIN (dB)	OUTPUT POWER (dBm)	INPUT OFFSET (mV)	GAIN FLATNESS (dB)	DELAY VARIATION (ps)	IN/OUT IMPEDANCE (ohms)
DWDCA-1046100-I/O	0 – 100	46	10	< 1	< 0.75	< 400	50 or 75
DWDCA-1040200-I/O	0 – 200	40	10	< 1	< 1	< 300	50 or 75
DWDCA-1020500-I/O	0 – 500	20	10	< 2.5	< 1	< 200	50 or 75

* I = Input impedance; O = Output impedance.
For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

PRIMARY POWER REQUIREMENTS

Current/voltage < ±300 mA @ ±15 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions 4.13" x 3.73" x .79"

CONNECTORS

Input/output SMA or BNC female available

DC power Feedthru terminal

Housing ground 2-56 terminal

HIGH-PERFORMANCE 1:4 WIDEBAND DC-COUPLED VARIABLE-GAIN AND OFFSET DISTRIBUTION AMPLIFIER

VDA SERIES



MODEL NUMBER*	BANDWIDTH (MHz)	GAIN (dB)	GAIN ADJUST (dB)	OUTPUT VOLTAGE (Volts)	INPUT OFFSET (mV)	OFFSET ADJUST (Volts)	GAIN FLATNESS (dB, P-P)	IN/OUT IMPEDANCE (ohms)
VDA-031045-I/O	0 – 45	10	10	3	< 2	±1	< 0.4	50 or 75
VDA-01875-I/O	0 – 75	8	8	1	< 2	±0.5	< 0.4	50 or 75
VDA-0110100-I/O	0 – 100	10	6	1	< 2	±0.5	< 0.5	50 or 75
VDA-0106200-I/O	0 – 200	6	6	1	< 2	±0.5	< 0.5	50 or 75

* I = Input impedance; O = Output impedance.
 For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

Notes: 1. Output port-to-port isolation is 35 dB typical. Higher port-to-port isolation is available.
 2. Higher number of outputs are also available.

PRIMARY POWER REQUIREMENTS

Current/voltage < ±150 mA @ ±15 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions 4.2" x 6.15" x 1"

CONNECTORS

Input/output SMA or BNC female available
 DC power Feedthru terminal
 Housing ground 2-56 terminal

HIGH-PERFORMANCE 1:4 WIDEBAND DC-COUPLED UNITY-GAIN DISTRIBUTION AMPLIFIER

UVDA SERIES



MODEL NUMBER *	BANDWIDTH (MHz)	OUTPUT VOLTAGE (Volts, P-P)	GAIN FLATNESS (dB)	OUTPUT OFFSET (mV)	IN/OUT IMPEDANCE (ohms)
UVDA-01100-I/O	0 – 100	1	0.5	< 15	50 or 75
UVDA-01200-I/O	0 – 200	1	0.5	< 15	50 or 75
UVDA-01400-I/O	0 – 400	1	1	< 20	50 or 75

* I = Input impedance; O = Output impedance.
 For impedance of 75 ohms, I or O = 7; for impedance of 50 ohms, I or O = 5.

Note: 1. Output port-to-port isolation is 35 dB typical. Higher port-to-port isolation is available.
 2. Higher number of outputs are also available.

PRIMARY POWER REQUIREMENTS

Current/voltage < ±150 mA @ ±15 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions 4.2" x 6.15" x 1"

CONNECTORS

Input/output SMA or BNC female available
 DC power Feedthru terminal
 Housing ground 2-56 terminal

COMMUNICATION HIGH-PERFORMANCE AMPLITUDE AND GROUP DELAY EQUALIZED IF FILTERS

FEQ-70 AND FEQ-140 SERIES 70 AND 140 MHz



COMMON ELECTRICAL SPECIFICATIONS

Insertion gain 0 \pm 0.5 dB
 Input/output impedance 75 ohms (see Options)
 Input/output return loss 18 dB
 Power supply 45 mA @ +15 volts

GROUP DELAY CHARACTERISTICS

MODEL NUMBER	CARRIER SIZE (MHz)	G (MHz)	H (MHz)	f(Over G/3) (ns)	g (ns)	h (ns)
70 MHz FILTERS						
FEQ-70-1.25	1.25	0.9	1.13	20	20	20
FEQ-70-2.5	2.5	1.8	2.1	10	10	20
FEQ-70-5.0	5	3.6	4.1	8	8	20
FEQ-70-7.5	7.5	5.4	6.2	7	7	20
FEQ-70-08	8	5.76	6.61	6.5	6.5	20
FEQ-70-10	10	7.2	8.3	6	6	18
FEQ-70-12	12	8.64	9.96	5	5	16
FEQ-70-15	15	10.8	12.4	4	5	15
FEQ-70-16	16	11.52	13.23	4	5	15
FEQ-70-17.5	17.5	12.6	14.2	3	4	14
FEQ-70-18	18	12.96	14.6	3	4	14
FEQ-70-20	20	14.4	16.6	3	4	14
FEQ-70-22	22	15.85	18.25	3	4	14
FEQ-70-24	24	17.3	19.9	3	4	14
FEQ-70-25	25	18	20.7	3	4	14
FEQ-70-26	26	20.2	24.6	2	3	12
FEQ-70-27	27	20.98	25.55	2	3	12
FEQ-70-30	30	24	30	3	4	14
FEQ-70-33	33	26.4	31.55	3	4	14
FEQ-70-34	34	27.2	31.26	3	4	14
FEQ-70-36	36	28.8	33.1	3	4	14
FEQ-70-40	40	32	36.8	3	4	14
140 MHz FILTERS						
FEQ-140-17.5	17.5	12.6	14.2	3	4	14
FEQ-140-20	20	14.4	16.6	3	4	14
FEQ-140-25	25	18	20.7	3	4	14
FEQ-140-27	27	20.98	25.55	2	3	12
FEQ-140-30	30	24	30	3	4	14
FEQ-140-36	36	28.8	33.1	3	4	14

COMMUNICATION HIGH-PERFORMANCE AMPLITUDE AND GROUP DELAY EQUALIZED IF FILTERS (CONT.)

AMPLITUDE/FREQUENCY CHARACTERISTICS

MODEL NUMBER	CARRIER SIZE (MHz)	A (MHz)	B (MHz)	C (MHz)	D (MHz)	a (dB)	b (dB)	c (dB)	d (dB)	e (dB)
70 MHz FILTERS										
FEQ-70-1.25	1.25	0.9	1.13	1.5	4	0.7	1.5	3	35	0
FEQ-70-2.5	2.5	1.9	2.25	3.5	7.75	0.7	1	5	35	0
FEQ-70-5.0	5	3.8	4.5	5.25	9.75	0.5	2	5	35	0
FEQ-70-7.5	7.5	5.75	6.75	7.75	11.75	0.4	2.5	6	33	0
FEQ-70-08	8	6.13	7.2	8.27	12.53	0.4	2.5	6	33	0.1
FEQ-70-10	10	7.65	9	10.25	14.5	0.3	2.5	7	34	0.1
FEQ-70-12	12	9.18	10.8	12.3	18.24	0.3	2.5	7	35	0.1
FEQ-70-15	15	11.5	13.5	15.5	23.5	0.3	2.5	6.5	35	0.1
FEQ-70-16	16	12.27	14.4	16.53	24.23	0.3	2.5	7	34	0.1
FEQ-70-17.5	17.5	13.35	15.75	18	26.5	0.3	2.5	6.5	35	0.05
FEQ-70-18	18	13.73	16.2	18.51	27.26	0.3	2.5	6.5	35	0.05
FEQ-70-20	20	15.25	18	20.5	29	0.3	2.5	7.5	35	0.1
FEQ-70-22	22	16.28	19.5	22.6	30.9	0.3	2.5	7.5	25	0.1
FEQ-70-24	24	17.3	21.6	24.7	32.8	0.3	2.5	7.9	25	0.1
FEQ-70-25	25	19	22.5	25.75	35.2	0.3	2.5	9	35	0.1
FEQ-70-26	26	20.2	25.2	28.9	40	0.2	2.2	8.3	25	0
FEQ-70-27	27	20.98	26.2	30.01	41.54	0.2	2.2	8.3	25	0
FEQ-70-30	30	25.5	30	37.7	57.1	0.3	2.5	10	35	0.15
FEQ-70-33	33	28.25	33	41.48	62.8	0.3	2.5	10	35	0.15
FEQ-70-34	34	29.28	34	42.74	64.69	0.3	2.5	10	35	0.15
FEQ-70-36	36	36	36	45.25	68.5	0.3	2.5	10	35	0.15
FEQ-70-40	40	34.45	40	50.3	76.1	0.3	2.5	10	35	0.15
140 MHz FILTERS										
FEQ-140-17.5	17.5	13.35	15.75	18	26.5	0.3	2.5	6.5	35	0.05
FEQ-140-20	20	15.25	18	20.5	29	0.3	2.5	7.5	35	0.1
FEQ-140-25	25	19	22.5	25.75	35.2	0.3	2.5	9	35	0.1
FEQ-140-27	27	20.98	26.2	30.01	41.54	0.2	2.2	8.3	25	0
FEQ-140-30	30	25.5	30	37.7	57.1	0.3	2.5	10	35	0.15
FEQ-140-36	31	31	36	45.25	68.5	0.3	2.5	10	35	0.15

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions 1.5" x 8.6" x 1"

CONNECTORS

Input/output BNC female for 50 ohms input/output impedance
SMA female for 75 ohms input/output impedance

DC power Feedthru terminal

Housing ground 2-56 terminal

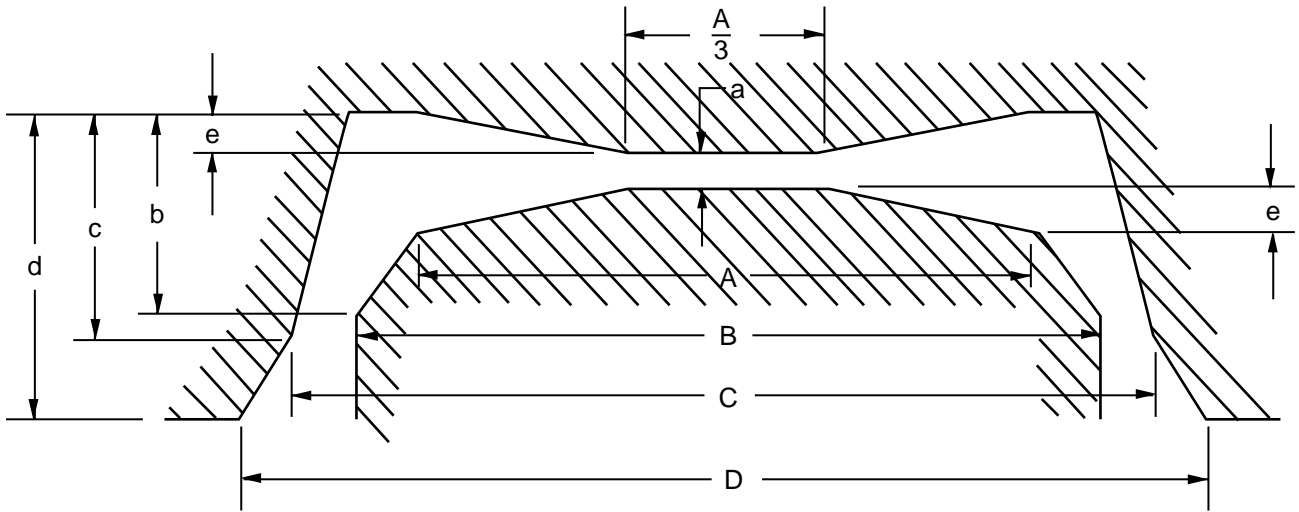
OPTIONS

FEQ1 50 ohms input/output impedance.

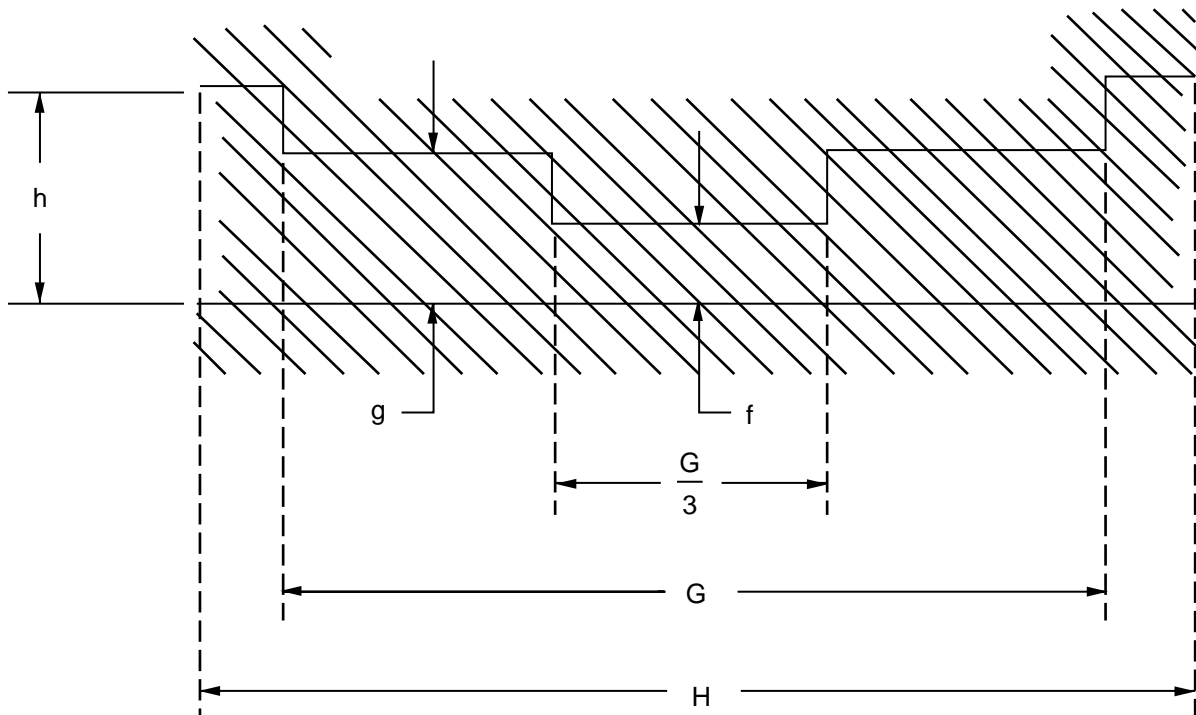
FEQ2 Slope adjustment of ± 0.3 dB over ± 18 MHz bandwidth.

FEQ3 Passive filter. Insertion loss = 10 ± 1 dB for all models except FEQ-70-1.25 with insertion loss of 15 ± 1 dB.

AMPLITUDE RESPONSE MASK



GROUP DELAY MASK



DUAL-CONVERSION DUAL-BAND UPCONVERTER

MODEL UPC-10-1.22/1.57

The dual-conversion dual-band upconverter converts a 0 to 10 MHz (up to 0 dBm level) baseband signal from a DSP-based signal processor to two separate RF frequencies. The baseband image is maintained through the conversion process to obtain twice the baseband signal bandwidth at RF. The first-stage local oscillator is suppressed > 45 dB and the baseband is compensated to maintain true flat DC response performance. Specifications can be custom-tailored to meet the requirements of a particular system design.



SPECIFICATIONS

INPUT

Input frequency	DC to 10 MHz
Operational input level	≤ 0 dBm
Input impedance	50 ohms
VSWR	< 2:1

COMBINED RF OUTPUT

Output frequencies	1.2276 and 1.57542 GHz
Bandwidth	±10 MHz (including the image)
Conversion response flatness	< 1 dB
Inband spurs	< -45 dBm (0 dBm input level), < -55 dBm (< -10 dBm input level)
Harmonics	> 35 dB
Out-of-band spurs	< -50 dBm
LO leakage at output	-25 dBm
Output impedance	50 ohms
VSWR	< 2:1
Conversion gain	4 dB ±1 dB
Output power (0 dBm input)	4 dBm ±1 dB
IF group delay variation @ 173.91 MHz	< 10 ns
RF group delay variation @ 1.2276 and 1.57542 GHz	< 2.5 ns
Noise figure	< 18 dB
LO frequencies	173.91 MHz @ +1 dBm, 1.40151 GHz @ +1 dBm

PRIMARY POWER REQUIREMENTS

Current/voltage	560 mA @ +15 volts
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PHYSICAL

Dimensions	3" x 8.2" x .83"
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CONNECTORS

Baseband input	SMA female
LO1 input	SMA female
LO2 input	SMA female
RF output	SMA female
DC supply	Feedthru terminal
Housing ground	4-40 terminal

OPTIONS

- UPC1** Input frequency (customer to specify).
- UPC2** Input level (customer to specify).
- UPC3** Input impedance (customer to specify).
- UPC4** Output frequency (customer to specify).
- UPC5** Output level (customer to specify).

MINIATURE-TRACKING THREE-CHANNEL DUAL-BAND I/Q VIDEO PROCESSOR

ACPSHDBIQP-1-12 SERIES



The three-channel I/Q processor receives the output from a conversion process stage and produces a wide-span baseband signal with enhanced image rejection and accurate phase and amplitude tracking across three channels. Each channel consists of a wideband active quadrature hybrid, an I/Q combiner, two switches, two group delay equalized filters, amplifiers, a driver and an active limiter.

The I/Q processor can easily be combined with a three-channel RF front end to integrate a complete receiver with excellent image rejection performance for a wide-span baseband frequency response, (MITEQ part number 119026). Designed with a computer interface link, the I/Q processor is able to program the receiver parameters and self-test features.

Complete three-channel RF receivers, with built-in self-test features, are available in the 9 to 10 GHz frequency band.

FEATURES

- Channelized modular sections for easy enhancement of system performance
- Active I/Q phase shifter and combiners
- Dual-band switchable-baseband filters
- Channel-to-channel dual-active group delay/phase equalizers
- Baseband gain blocks
- Channel-to-channel video gain equalizers
- Output limiter

ELECTRICAL SPECIFICATIONS

Number of channels	3	
I/Q input frequency range	1 to 12 MHz	
I/Q quadrature accuracy		
Amplitude	±0.25 dB	
Phase	±3°	
Switched filter/equalizer		
Bands per channel	2	
Filter/equalizer characteristics	Band 1	Band 2
1 dB bandwidth	2 to 4 MHz	4 to 11.5 MHz
Passband slope/ ripple	±0.15 dB	±0.2 dB
Stopband attenuation	50 dB minimum	50 dB minimum
Stopband frequency	0.2 and 10 MHz	0.4 and 30 MHz

COMPLETE I/Q PROCESSOR CHARACTERISTICS

(From the I/Q inputs through the quadrature networks, combiner, switched filter/group delay equalizer, amplifiers, driver and output limiter.)

Processor bands	1	2
1 dB bandwidth	Band 1	Band 2
Passband ripple / slope	±0.25 dB	±0.3 dB
Channel-to-channel tracking		
Amplitude	±0.2 dB	±0.25 dB
Phase	±1.5°	±3°
Output voltage	±2 volts into 1000 ohms	±1 volts into 50 ohms
Gain	12 dB	
Limited output	±2.2 volts into 1000 ohms	
I/Q computer interface	Four signal/control lines data in/out, shift clock, latch data and receive/transmit	

PRIMARY POWER REQUIREMENTS

DC power	2.5 mA @ +15 volts
	2.5 mA @ -15 volts
	64 mA @ +5 volts
	50 mA @ -5 volts

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions	3.5" x 5.45" x 0.8"
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CONNECTORS

IF input	SMA female
IF output	SMA female
Controls input/power ground	15-pin male, D type

OPTIONS

- TIQ1** I/Q frequency input range from 20 kHz to 20 MHz.
- TIQ2** I/Q frequency span ratio up to 100:1 within the 20 kHz to 20 MHz range.
- TIQ3** Switched filter/equalizer (two per channel, each up to 10:1).
- TIQ4** Channel-to-channel phase and amplitude tracking from ±1° and ±0.2 dB, respectively depending on the I/Q frequency input range and span ratio gain (available to 30 dB).
- TIQ5** Gain up to 30 dB.

ACTIVE QUADRATURE HYBRIDS

ACPSH AND ACpsc SERIES



Active quadrature (90°) hybrids are used in image rejection mixers where the IF signal frequency is very wide and/or passive quadrature hybrids cannot meet the requirements.

ADVANTAGES OVER PASSIVE QUADRATURE HYBRIDS

Active quadrature hybrids can overcome the following limitations and more:

- Provides accurate phase and amplitude tracking to cover an extended frequency span
- Adjust for amplitude unbalances of the mixer
- Size and cost
- Customized input and output matching
- Gain
- Customizable output drive

MODEL NUMBER *	FREQUENCY SPAN	PHASE (±°)	AMPLITUDE (±dB)
ACPSH SERIES			
ACPSH-10Hz-10K-I/O/G	10 Hz – 10 kHz	< 1	< 0.2
ACPSH-1-100K-I/O/G	1 kHz – 100 kHz	< 1	< 0.2
ACPSH-1K-1M-I/O/G	1 kHz – 1 MHz	< 1.5	< 0.5
ACPSH-5-750K-I/O/G	5 kHz – 750 kHz	< 1.5	< 0.35
ACPSH-10K-1M-I/O/G	10 kHz – 1 MHz	< 1.5	< 0.35
ACPSH-5K-5M-I/O/G	5 kHz – 5 MHz	< 2.5	< 0.5
ACPSH-20K-2M-I/O/G	20 kHz – 2 MHz	< 1.5	< 0.35
ACPSH-1-10M-I/O/G	1 MHz – 10 MHz	< 2	< 0.3
ACPSH-1-40M-I/O/G	1 MHz – 40 MHz	< 5	< 0.5
ACPSH-50K-20M-I/O/G	50 kHz – 20 MHz	< 3	< 0.5
ACPSH-200K-40M-I/O/G	200 kHz – 40 MHz	< 6	< 0.5
ACPSH-100K-50M-I/O/G	100 kHz – 50 MHz	< 8	< 0.6
ACpsc SERIES			
ACpsc-10Hz-10K-I/O/G	10 Hz – 10 kHz	< 1	< 0.2
ACpsc-1-100K-I/O/G	1 kHz – 100 kHz	< 1	< 0.2
ACpsc-1K-1M-I/O/G	1 kHz – 1 MHz	< 1.5	< 0.5
ACpsc-5-750K-I/O/G	5 kHz – 750 kHz	< 1.5	< 0.35
ACpsc-10K-1M-I/O/G	10 kHz – 1 MHz	< 1.5	< 0.35
ACpsc-5K-5M-I/O/G	5 kHz – 5 MHz	< 2.5	< 0.5
ACpsc-20K-2M-I/O/G	20 kHz – 2 MHz	< 1.5	< 0.35
ACpsc-1-10M-I/O/G	1 MHz – 10 MHz	< 2	< 0.3
ACpsc-1-40M-I/O/G	1 MHz – 40 MHz	< 5	< 0.5
ACpsc-50K-20M-I/O/G	50 kHz – 20 MHz	< 3	< 0.5
ACpsc-200K-40M-I/O/G	200 kHz – 40 MHz	< 6	< 0.5
ACpsc-100K-50M-I/O/G	100 kHz – 50 MHz	< 8	< 0.6

* I = Input impedance (0.01 to 100K ohms); O = Output impedance (0.01 to 1K ohms); G = Gain (0 to 40 dB).

COMMON ELECTRICAL SPECIFICATIONS

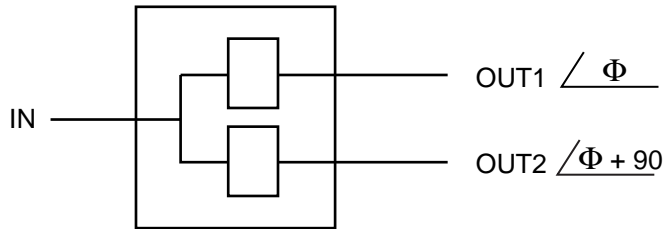
Noise figure.....	10 dB typical (consult factory for lower noise figures)
I/Q frequency span ratio	Up to 1000:1 in the frequency range of 10 Hz to 50 MHz
I/Q quadrature accuracy	See table
Gain	Available from 0 to 40 dB
Output power	± 5 VDC, ≤ 5 dBm
	± 12 VDC, ≥ 5 dBm

PRIMARY POWER REQUIREMENTS

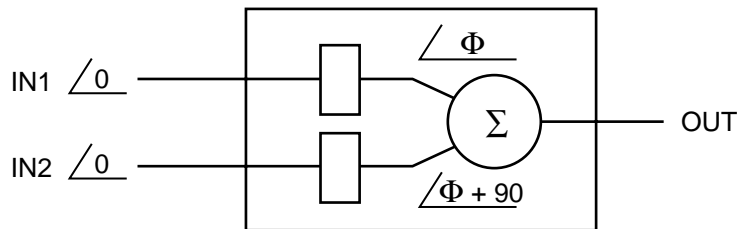
10:1 span.....	< ± 35 mA @ ± 5 volts
100:1 span.....	< ± 50 mA @ ± 5 volts
> 100:1 span.....	< ± 65 mA @ ± 5 volts

CONFIGURATIONS

ACPSH SERIES



ACPSC SERIES



ORDER EXAMPLE (see table)

Model Number: ACPSH-1K-100K-0.1/1/15
 Input impedance = 0.1K ohms
 Output impedance = 1K ohms
 Gain = 15 dB

MECHANICAL SPECIFICATIONS

PHYSICAL

Dimensions..... 1.2" x 1.7" x .64"

CONNECTORS

Input/output..... SMA female
 DC power..... Feedthru terminal
 Housing ground..... 2-56 terminal



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