

CERNEX, Inc. & CERNEXWAVE

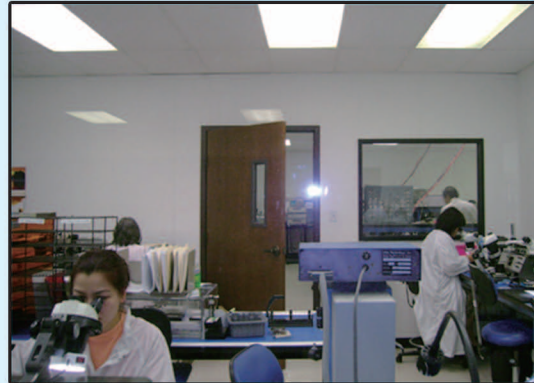
INTRODUCTION

CERNEX, INC., is a company with a commitment to product excellence and technological expertise in state-of-the art thin-film hybrid, MIMIC and discrete microwave and millimeter-wave components, and sub-assemblies up to 1000Ghz. Our company was established to provide products and services to growing markets such as wireless telecommunications aerospace, defense and fiber optic communications industry.

The company was incorporated in 1988 to develop and manufacture high quality active & passive components, waveguide products, ferrite products, antenna products, sub-systems and various other microwave and millimeter-wave products for the commercial and military markets. Our excellent technical staff and production facility enable the company to respond quickly to customers' needs.

Our goal is to achieve the highest quality performance, reliability, service and on-time delivery, and to exceed our customers' expectations. This goal has allowed our company to maintain a steady growth over the past few years.

Our management team consists of a team of senior design engineers and sales/marketing staff with over 350 man-years of experience in the microwave and millimeter-wave businesses.



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NOMENCLATURE (03/14)

AMPLIFIERS (Up to 110 Ghz)

Gain Modules	CGM
Broadband Low Noise	CBL
Broadband Med. Power	CBM
Broadband High Power	CBP
Narrowband Low Noise	CNL
Narrowband Med. Power	CNM
Narrowband High Power	CNP
Limiting Amplifiers	CLA
Gain Control Amplifiers	CGC
Temp. Control Ampl.	CTA
Gain/Temp. Control Ampl.	CGT
Gain Slope Amplifiers	CGS
DLVA	CDL

FREQUENCY MULTIPLIERS

Full Band Networ Analyzer	CFM
Extenders	CNE
Full Band Frequency Extenders	CFE

FREQUENCY DIVIDERS

CDV

FREQUENCY COMBINERS

CCF

FREQUENCY CONVERTERS

Down Converters	CDN
Up Converters	CUP
Subharmonic Pumped Up-converters	CSUP

ANTENNAS

Rectangular Gain Horn	CRA
Circular Gain Horn	CCA
Microstrip Antenna	CMA
Planar Antenna	CPA
Wide Angle Scalar Feed Horn	CWA
Scalar Feed Horn	CFH
Orthomode Transducer	COT
Horn Lens Antennas	CHA
Prime Focus Parabolic Antennas	CPF
Casserain Antennas	CCG
Circular Polarizer	CCP
Linear-Circular Switchable Polar.	CLP
Farraday Fixed Polarizer	CFP
Farraday Switchable Polarizer	CSP
Faraday Programmable Polarizer	CPP
Parabolic Grid Antenna	CPG
Parabolic Antenna	CPB
GPS Antenna	CGP
Patch Antenna	CAP
Omni Directional	COD

ANTENNAS

Sectorial Horn Antennas	CSHA
Hybrid Polarizer	CHP
Corrugated Antenna	CGA
Patch Antenna(Microstrip) for Speed Sensor Heads	CAPS
Microstrip Patch Array Antennas	CAPA
Omni Directional Antennas	CODA

COUPLERS PRODUCTS

Directional Couplers	CDC
Cross Guide Couplers	CCC
Magic Tee	CMT
Bidirectional Couplers	CBC
Power Samplers	CPR
Hybrid Couplers	CHC
Dual Direction Couplers	CDDC
Waveguide Cross Guide Block Couplers	CCCB

FERRITE

Differential Φ -shift Circulators	CPC
High Power Resonance Isolators	CRI
T-Type Circulators	CTC
Double Junction Circulators	CDJ
Junction Circulators (Include K & Ka Full-Band)	CJC
Junction Isolators (Include K & Ka Full-Band)	CJI
Fullband Isolators	CFI
Fullband Circulators	CFC
Drop-in Isolators	CID
Drop-in Circulators	CCD
Full Band Ferraday Isolators	CFF
Coaxial Isolators	COI
Coaxial Circulators	COC
High Power Coaxial Circulators	COH
High power Waveguide Circulators	CWC
High Power Waveguide Isolators	CWI
Iso-adapters	CIA
Microstrip isolators	CMI
Microstrip Circulators	CCM
S.M. Isolators/Circulators	CSI/CSC

FILTERS & DIPLEXERS

Lowpass	CLF
Bandpass	CBF
Highpass	CHF
Image Rejection	CIF
Diplexers	CDF
Triplexers	CTF
Switch Filter Banks	CSB

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Notch Filters	CNF	Waveguide Short	CSW
		Adjustable Waveguide Short	CAS
OSCILLATORS & NOISE SOURCES		Rotary Joint	CRJ
Mech. Tuned Gunn Osc.	CMG	Frequency Meters	CMF
Varactor Tuned Gunn Osc.	CVG	Direct Reading Freq. Meters	CDM
Bias Tuned Gunn Osc.	CBG	Hybrid Tees	CHT
DRO	CDO	E & H Plane Series Tees	CTE
PLO	CPO	Single Hybrid Ring	CHR
VCO	CVO	E/H Plane Tuners	CPT
Full Band Noise Source	CNS	90 degree Hybrid	CBH
Full Band Noise Figure and Gain Test Extenders	CNF	Circular Waveguide Section	CCS
Wide Tuning Bandwidth	CMGW	3dB Short Slot hybrid	CSH
Mechanical Gunn Osc.		Waveguide Flanges	CWR
Low Cost Gunn Osc.	CMGL	Flexible/Twistable Waveguide	CFT
SWITCHES		Flexible Waveguide	CFW
SPST Switch	C1T	Power Sampler	CPR
SPDT Switch	C2T	Waveguide Tuner	CWT
SPTT Switch	C3T	Waveguide Combiner	CCW
SP4T Switch	C4T	Elliptic Waveguide	CEW
Rotary Switch	CRT	Pressure Windows	CPW
Two Position Solenoid Switch	CTP	Power Sensor	CPWS
Mechanical Switch (Electro-Mech.)	CSM	Waveguide Open	COW
Polarization Switches	CZS	Waveguide Short	CSW
Mechanical Waveguide Switches	CWS	Pressure Inlet	CPI
Coaxial Switches	CTC		
PHASE SHIFTERS		TERMINATIONS	
Phase Shifters	CPS	Coaxial Load	CCL
Motorized Rotary Vane Phase Shifter	CMP	High Power Load Termination	CWL
Ferrite Phase Shifters	CFS	Sliding Matched Termination	CST
Micrometer Cal. Phase Shifters	CMS	DC Block	CDB
Direct Reading Phase Shifters	CDS	Chip Power Termination	CSL
Digital Phase Shifters	CSD	Flange Termination	CFL
Differential Phase shifters	CDD		
TRANSITION & ADAPTERS		MIXERS	
Waveguide to Waveguide	CWW	Balance Mixers	CMB
Waveguide to Coax	CWK	Harmonics Mixers	CHM
Rectangular to Circular	CRC	Rejection Mixers	CRM
Tapered Mode	CTM	I/Q Mixers	CQM
Flange Adapter	CWF	Quadrature Mixers and Phase Detectors	CQMP
Coaxial Adapters		Subharmonic Pumped Mixers	CSHM
WAVEGUIDE PRODUCTS		ATTENUATORS	
Waveguide Section	CSS	Fixed Setting Attenuators	CFA
Waveguide Section(Block)	CSSB	Level Set Attenuators	CSA
Circular Waveguide Section	CSSC	Micrometer Cal. Attenuators	CMC
Waveguide Twist	CTS	Direct Reading Precision Attenuator	CDA
Waveguide E/H Bends 90°	CWB	Pin Diode Attenuator	CPD
Waveguide E/H Bends(Block)	CWBB	Programmable Rotary Attenuator	CRV
		Voltage Controlled Attenuators	CVA
		Digital Controlled Attenuators	CAD

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ATTENUATORS

Step Attenuators	CAT
Chip Power Attenuators	CFAS
Flange Power Attenuators	CFAF
Rotary Step Attenuators	CSAR
Push Button Step Attenuators	CSAP
Toggle Switch Step Attenuators	CSAT

RESISTORS

Chip Power Resistors	CRS
Flange Power Resistors	CRF

DETECTORS

Inline Detectors	CFD
Balanced Phase Detector	CBD
Amplitude Detector	CMD

SUBSYSTEMS

Subsystems	CSR
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BIAS TEE

LIMITER

POWER COMBINER/DIVIDER

CABLE ASSEMBLIES

VOLTAGE REGULATORS

EQUALIZER

SYNTHESIZER

PIN DIODE MODULATOR

TEST KITS

CALIBRATION KITS

VNA TEST CABLES

MINI JACKS

RECEIVER SUB-ASSEMBLIES

AND MODULES

TRANSMITTER SUB-ASSEMBLIES

AND MODULES

TRANSCEIVER SUB-ASSEMBLIES

AND MODULES

RF FEEDTHRU

LOW NOISE BLOCK CONVERTER

CBT
CLM
CDP
CVR
CGE
CSY
CPM
CKT
CCK
CVNA
CMJ
CRX
CTX
CTR
CFE
CNB

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AMPLIFIERS:GaAs,PHEMT,GaN

BROADBAND LOW NOISE AMPLIFIERS:

0.001-110GHz (Octave and Multi-Octave) With Noise Figure As Low As 2db.

0.5-2GHz; 0.5-12GHz; 0.5-20GHz; 0.5-40GHz; 2-4GHz; 2-8GHz; 2-20GHz;
2-26.5GHz; 3.7-12GHz; 5-15GHz; 6-18GHz; 18-26.5GHz; 18-40GHz;
26.5-40GHz; 57-65GHz; 85-97GHz;75-110GHz.

BROADBAND MEDIUM POWER AMPLIFIERS:

0.001-97GHz (Octave and Multi-Octave) With Output Power Up To 30dBm.

0.5-2GHz; 0.5-4GHz; 0.5-6GHz; 0.5-8GHz; 0.5-10GHz; 0.5-12GHz;
0.5-14GHz; 0.5-20GHz; 2-4GHz; 2-8GHz; 2-20GHz; 2-50GHz; 3.7-12GHz;
5-15GHz; 6-18GHz; 18-26.5GHz; 18-40GHz; 26.5-40GHz; 40GHz-60GHz;
71-76GHz;81-86GHz,90-97GHz; 75-110GHz.

BROADBAND HIGH POWER AMPLIFIERS:

0.001-45GHz (Octave and Multi-Octave) With Output Power Up To 53dBm.

0.5-2GHz; 2-4GHz; 2-8GHz; 4-8GHz; 6-18GHz; 3.7-12GHz; 5-15GHz; 8-12GHz;
12-18GHz; 18-20GHz; 18-26.5GHz; 26.5-40GHz;40-50GHz.

NARROWBAND LOW NOISE AMPLIFIERS:

0.001-97GHz With Noise Figure As Low As 0.30dB At L-Band, And 6dB At 110GHz.

NARROWBAND MEDIUM POWER AMPLIFIERS:

0.001-96GHz With Output Power Up To 33dBm At Q Band.

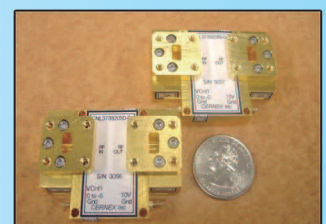
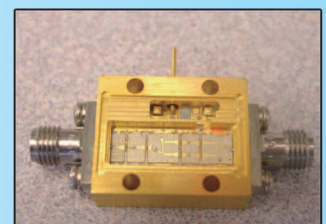
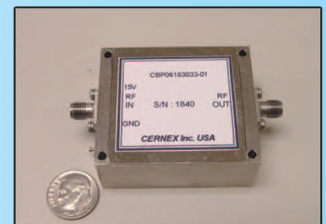
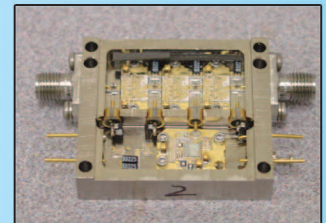
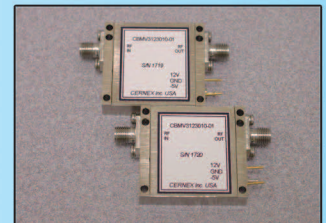
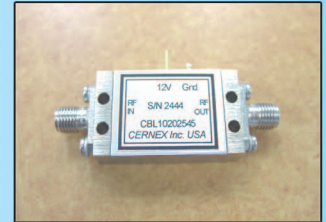
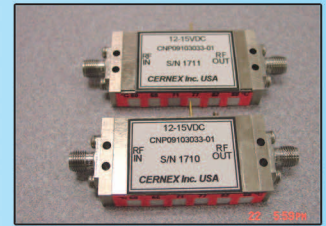
NARROWBAND HIGH POWER AMPLIFIERS:

0.001-45GHz With Output Power Up To 1000W At L & C Band.

LIMITING AMPLIFIERS:

0.001-60GHz (Octave and Multi-Octave) With Medium And High Gain.

0.5-2GHz; 2-8GHz; 2-18GHz; 4-8GHz; 6-18GHz; 8-12GHz; 8-20GHz;
18-26.5GHz; 26.5-40GHz;40GHz-60GHz



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RACK MOUNT AMPLIFIERS (19 INCHES):

0.5-2GHz (20W - 50W); 0.8-2.5GHz (20W - 300W);
1-2GHz (20W - 300W); 2-4GHz (20W - 300W); 2-6GHz (10W - 300W);
2-8GHz (10W - 100W); 4-8GHz (20W - 100W);
8-12GHz(20W - 100W); 6-18GHz (10W - 100W);
18-26.5GHz (5W,- 20W); 26.5-40GHz (2W - 20W).



DESK TOP AMPLIFIERS (12 INCHES) :

LNA: 1-40GHz (5dB NF); 1-50GHz (7dB NF);1-75GHz(9dB NF).

0.5-2GHz (5W); 0.8-2.5GHz (5W & 10W); 1-2GHz (5W & 10W);
2-4GHz (5W & 10W); 2-6GHz (5W); 2-8GHz (5W); 4-8GHz (10W);
8-12GHz (5W & 10W); 6-18GHz (2W, 4W & 5W); 18-26.5GHz
(1W & 2W); 26.5-40GHz (1W & 2W).



BENCHTOP AMPLIFIERS GaAs & PHEMT:

LNA: 1-40GHz (5dB NF); 1-50GHz (7dB NF);1-75GHz(9dB NF).

0.5-2GHz (5W); 0.8-2.5GHz (5W & 10W); 1-2GHz (5W & 10W);
2-4GHz (5W & 10W); 2-6GHz (5W); 2-8GHz (5W); 4-8GHz (10W);
8-12GHz (5W & 10W); 6-18GHz (2W, 4W & 5W); 18-26.5GHz
(1W & 2W); 26.5-40GHz (1W & 2W)



30KHz-10GHz;30KHz-12GHz;30KHz-14GHz;50KHz-18GHz;50KHz-20GHz
75KHz-45GHz;75KHz-50GHz,75KHz-78GHz

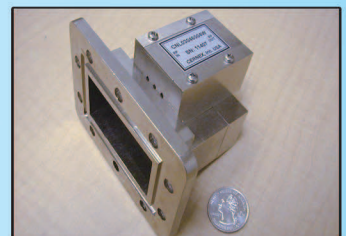
DESK TOP MULTIPLIERS (12 INCHES) :

INPUT FREQUENCY: 2.5GHz
OUTPUT FREQUENCIES: 5GHz; 10GHz; 20GHz & 40GHz.



DESK TOP PRESCALARS (12 INCHES) :

INPUT FREQUENCY: 40GHZ @ 0dBm
OUTPUT FREQUENCIES: 20GHz, 10GHz & 5GHz @ 0dBm



SATCOM WAVEGUIDE LNAs:

L-Band; S-Band; C-Band; X-Band; Ku-Band, Ka-Band

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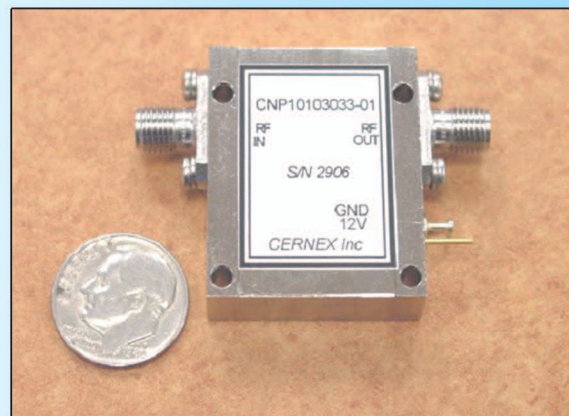
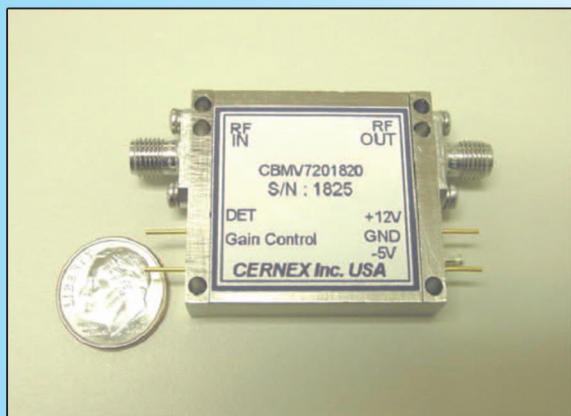
AMPLIFIERS FOR OPTICAL FIBER COMMUNICATIONS:

Broadband Modulator Driver Amplifiers (NRZ) for Optical Fiber Communications Up To 40Gb/s With Output Voltage of 3-8 Vp-p.

30KHz-10GHz; 30KHz-12GHz; 30KHz-14GHz; 50KHz-18GHz; 50KHz-20GHz; 75KHz-45GHz; 75KHz-50GHz; 75KHz-78GHz.

Driver Amplifiers (RZ) for Clock Recovery and Forward Error Correction Up To 100Gb/s With Output Voltage Up To 30 Vp-p.

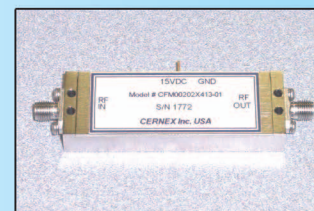
20Gbs & 40Gbs Clock Recovery Amplifiers



FREQUENCY MULTIPLIERS UP TO 1000GHZ:

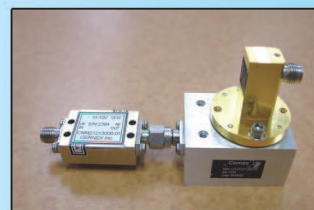
PASSIVE FREQUENCY MULTIPLIERS:

With Input Frequency As Low As 0.01GHz, And Output Frequency As High As 500GHz.



ACTIVE FREQUENCY MULTIPLIERS:

With Input Frequency As Low As 0.01GHz, And Output Frequency As High As 120GHz. Multiplication Factors From 2 to 64.



FREQUENCY DIVIDERS:

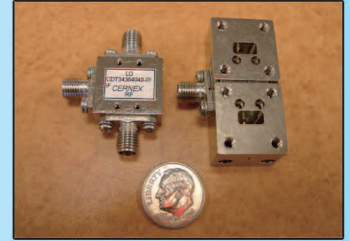
With Input Frequency As High As 40GHz, And Output Frequency As Low As 0.1GHz.



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MIXERS & DETECTORS UP TO 1000GHz:

Harmonic Mixers, Spectrum Analyzer Mixers, Single Ended Mixers, Balance Mixers & Wide-Band Balance Mixers.



SOURCES UP TO 160GHz:

Mechanically Tuned Gunn Oscillators, Varactor-Tuned Gunn Oscillators, DROs, VCOs, PLOs, Injection Locked Oscillators & Noise Sources.



CONTROL COMPONENTS UP TO 160GHz:

Direct Reading Precision Attenuators, Programmable Rotary Vane Attenuators, Uncalibrated Variable Attenuators, Dial-Driven Calibrated Attenuators, Micrometer-Driven Calibrated Attenuators, Variable PIN Attenuators. Frequency Meters & Direct Reading Frequency Meters.



ATTENUATORS UP TO 160GHz:

Coaxial & Waveguide Fixed Power Attenuators Up To 10KW, Level Set Attenuators, Micrometer Cal. Attenuators, PIN Diode Attenuators, Voltage Controlled Attenuators, Digital Controlled Attenuators.



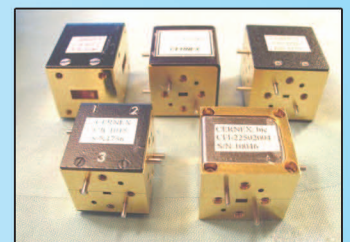
SWITCHES UP TO 160GHz:

Mechanical Waveguide Switches, Electromechanical Waveguide Switches, PIN Switches (SP1T To SP16T, Full-band Switches).



FERRITE PRODUCTS UP TO 170GHz:

Fullband Junction Circulators And Isolators. (18-26.5GHz; 26.5-40GHz; 33-50GHz; 40-60GHz; 50-75GHz; 60-90GHz & 75-110GHz). High Power Isolators And Circulators, Coaxial And Drop-in Isolators And Circulators.



FILTERS & DIPLEXERS UP TO 160GHz:

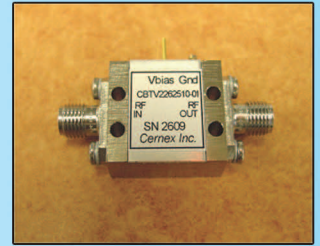
BandPass Filters, Low Pass Filters, HighPass Filters & Notch Filters.



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BIAS TEES:

Waveguide & Coaxial Bias Tees Up To 110GHz.



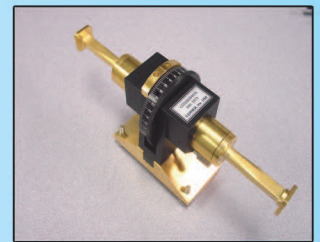
WAVEGUIDE & COXIAL COUPLERS UP TO 160GHz:

Directional & Bi-directional Couplers, Precision High Directivity Couplers, Crossguide Couplers, 3dB Hybrid 90 Degree And 180 Degree Couplers.



POWER COMBINERS AND DIVIDERS UP TO 60GHz:

Waveguide & Coaxial 2 To 24 Way Combiners/Dividers.



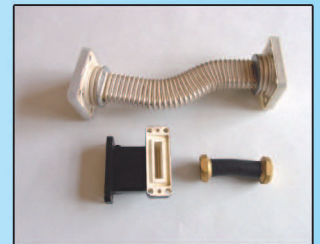
WAVEGUIDE AND COXIAL PHASE SHIFTERS:

Direct Reading & Variable Phase Shifters.



TERMINATIONS AND LOADS UP TO 160GHz:

Coaxial Loads Up To 50KW, Waveguide Air & Water Cooled Loads Up To 5KW, Sliding Matched Terminations, Waveguide & Coaxial Terminations, DC Block.



TRANSITIONS / ADAPTERS UP TO 110GHz:

Low Loss Cosine & Linear Tapered Mode Transitions, Circular To Rectangular Waveguide Transitions, Waveguide To Coax Transitions, Coaxial Adapters (1mm, 1.8mm, 2.4mm, 3,5mm, SMA etc.. In Series And Between Series).



WAVEGUIDE PRODUCTS UP TO 1000GHz:

Matched Hybrid Tees, E-Plane And H-Plane Tees.

Waveguide Sections, Terminations, Sliding Matched Terminations, Twists & Bends, Shorts, Adjustable Shorts, Rotary Joints, Hybrid Tees, H and E Plane Series Tees, Single Hybrid Ring, 90 Degree Hybrid Tees, Circular Waveguide Sections, 3dB Short Slot Hybrid, Waveguide Flanges, Flexible/Twistable Waveguides, Waveguide Tuners, Elliptic Waveguide, Pressure Windows, Tunable Loads & Shorts, E/H Plane Tuners, Mechanical And Power Samplers.



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DETECTORS UP TO 1000GHz:

Finline Detectors, Balance Phase Detectors & BroadBand Detectors.



ANTENNA PRODUCTS UP TO 1000GHz:

Horn Lens Antennas, Standard Gain Horn Antennas, Scalar & Wide Angle Scalar Feed Horn Antennas, Cassegrain Reflector Antennas, Prime Focus Antennas, Orthomode Transducers, Linear To Circular Fixed And Switchable Polarizers, Parabolic Grid Antennas, GPS Antennas & Flat Panel Antennas.



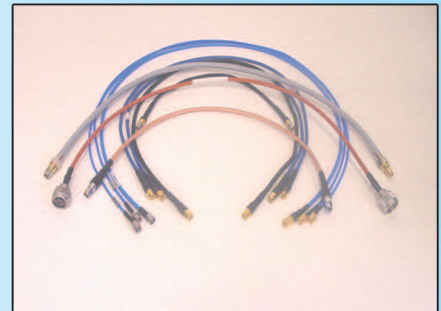
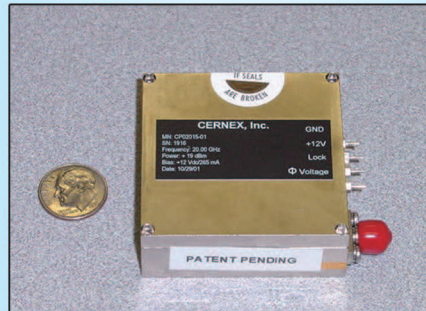
ASSEMBLIES AND SUBSYSTEMS:

Up/Down Converters, Sat-Com Up/Down Converters, Dual & Tri-Band Block Down Converters, Transmitters, Generic Transceivers & Antenna-Related Subsystems.



SYSTEMS PRODUCTS CAPABILITY:

Sensor Products, Communication Products, Remote Sensing Products, Surveillance And EW Products.



NOTES: PLEASE, CONTACT THE FACTORY FOR ALL YOUR OTHER SPECIAL REQUIREMENTS. WE ALSO HAVE PRODUCTS, WHICH ARE NOT YET MENTIONED IN THIS BROCHURE. DATASHEETS FOR EACH PRODUCT CAN BE DOWN LOADED FROM OUR WEBSITE.

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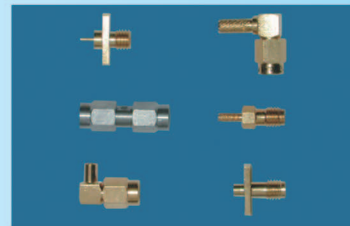
CONNECTORS



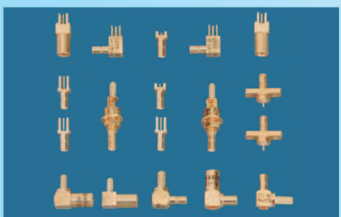
MMCX(DC-6GHz)



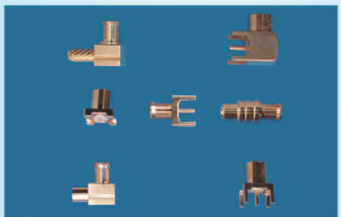
SMP(DC-26.5GHz)



SSMA(DC-40GHz)



SSMB(DC-3GHz)



MCX(DC-6GHz)



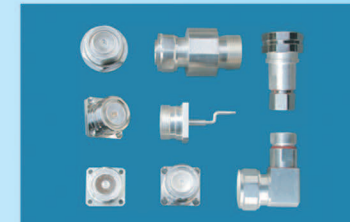
SMB(DC-12.4GHz)



BMA(DC-22GHz)



BNC(DC-4GHz)



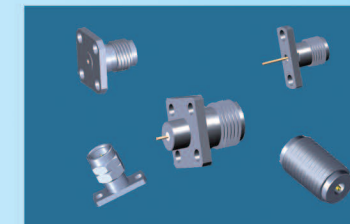
7-16(DC-7.5GHz)



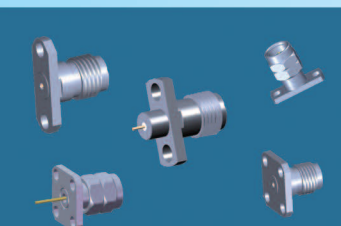
SMA(DC-27GHz)



N(DC-18GHz)



2.92mm(DC-40GHz)



2.4mm(DC-50GHz)



1.85mm(DC-65GHz)



1mm(DC-110GHz)

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ADAPTORS

IN SERIES ADAPTORS:

TNC-TNC adaptors(DC~11GHz)

BNC-BNC adapters(DC~8GHz)

SMA-SMA adaptors (DC~27GHz)

3.5mm-3.5mm adaptors(DC~33GHz)

2.4mm-2.4mm adaptors(DC~50GHz)

1mm-1mm adaptors(DC~110GHz)

TNCA-TNCA adaptors(DC~18GHz)

N-N adaptors(DC~18GHz)

SSMA-SSMA adapters(DC~40GHz)

2.92mm-2.92mm adaptors(DC~40GHz)

1.85mm-1.85mm adaptors(DC~65GHz)

BETWEEN SERIES ADAPTORS:

7mm to N

SMA to L16

2.4mm to N

N to TNCA

2.4mm to 3.5mm

2.4mm to 2.92mm

2.4mm to SMA

2.4mm to SSMA

SMA to TNCA

3.5mm to 7mm

3.5mm to N

N to BNC

SMA to N

1.85mm to 3.5mm

1.85mm to 2.92mm

1.85mm to 2.4mm

SMA to BNC

SSMA to SMA

L16 to N

2.92mm to N

N to TNC

2.9mm to 3.5mm

SMA to 3.5mm

2.92mm to SMA

2.92mm to SSMA

SMA to TNC

1mm to 1.85mm

RIGHT ANGLE ADAPTORS:

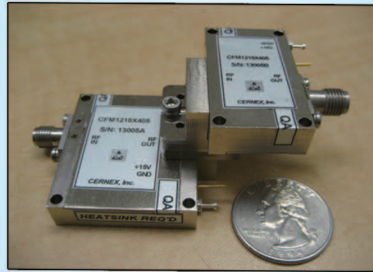
TNC,N,SMA 3.5mm,2.92mm,2.4mm Series



CERNEX, Inc. & CERNEXWAVE



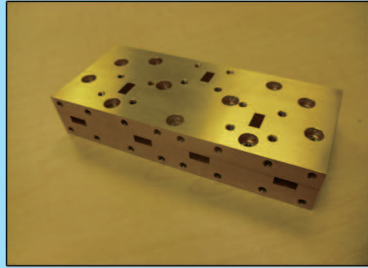
Programmable Step Attenuators



Multiplier



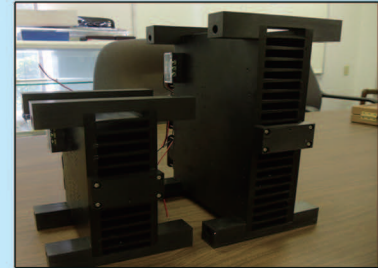
18GHz Rotary Joint



Waveguide Combiner



WR28 E-H Tuner



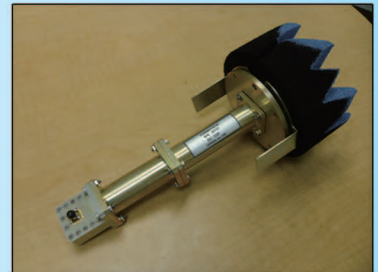
Heatsinks



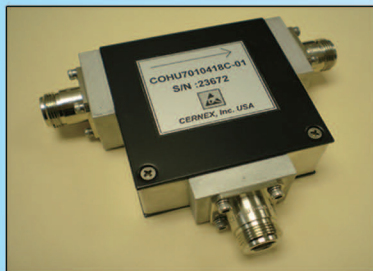
WR10 Bidirectional Coupler



Test kit



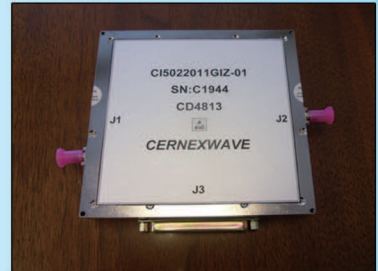
WR28 Polarizer



Coax High Power Circulator



4-8GHz High Power Circulator



IQ Modulator



Rotary Step Attenuator



Waveguide Filter

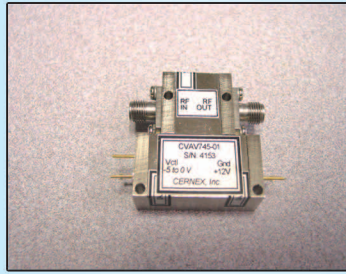


Tunable Shorts

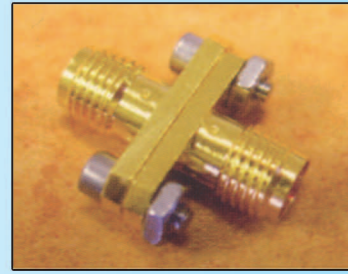
CERNEX, Inc. & CERNEXWAVE



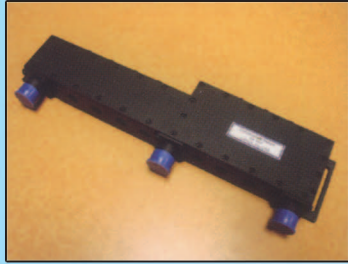
Coaxial Tubular Products



DC-45GHz Var. Attenuator



DC-Block



CDMA Power Divider



Coaxial PIN Switches



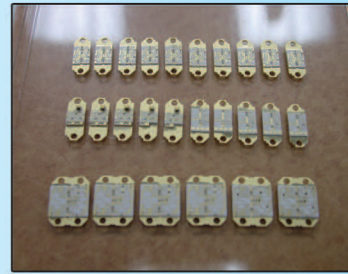
Coaxial Loads



Connectors



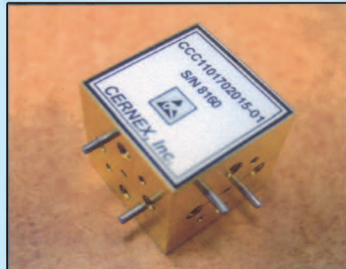
Frequency Combiner



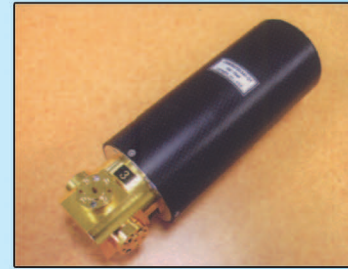
Gain Modules



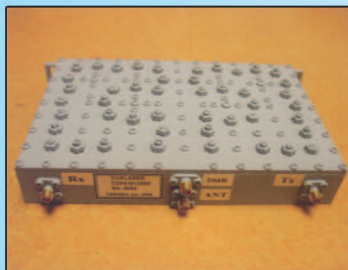
Power Supply-Rack



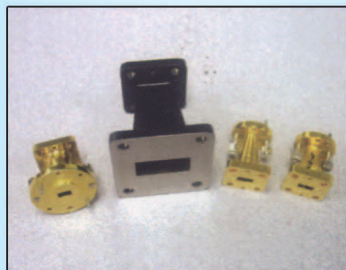
WR6 Crossguide Coupler



WR15 Electro-Mech Switch



WCDMA Diplexer

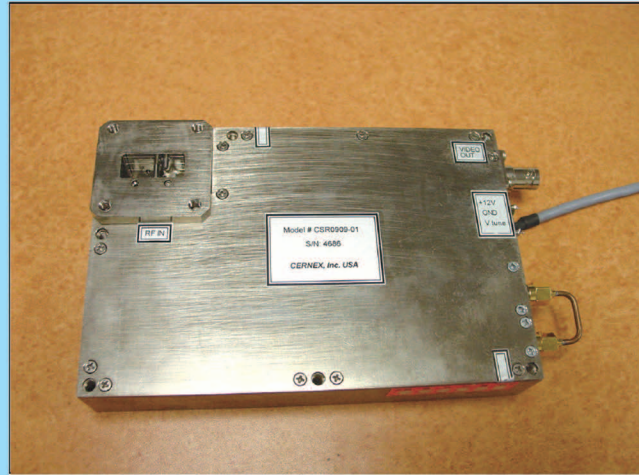


Tapered Mode Transitions

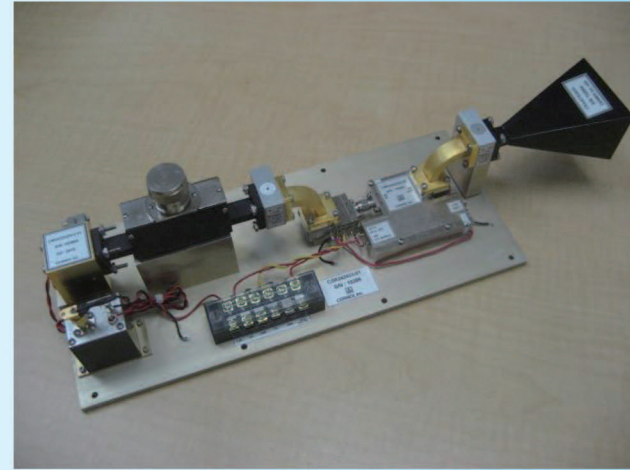


Various Filters

CERNEX, Inc. & CERNEXWAVE



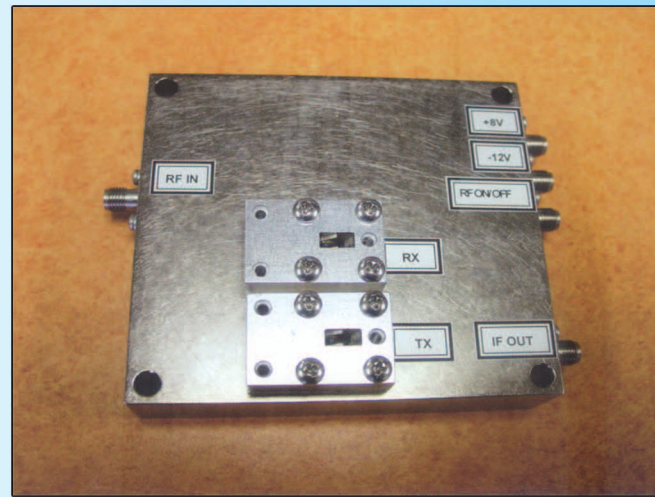
X-band Receiver



WR42 Osc. Amp Sub-system



Detector Sub-system



KA-band Transceiver

CERNEX, Inc. & CERNEXWAVE



AMPLIFIERS, ANTENNAS, MULTIPLIERS,
 SOURCES DETECTORS, SWITCHES,
 MIXERS, WAVEGUIDE PRODUCTS,
 MILLIMETER-WAVE COMPONENTS,
 FERRITE PRODUCTS AND SUB-SYSTEMS