

Applications

- Cable Television (CATV) Set-tops
- Satellite Set-tops
- Residential Video Distribution and Gateways
- MoCA, HPNA/Coax
- Fiber-to-the-X Optical Network Termination

Pulse Offering

- Diplex Filters
- RF Splitter/Combiners
- Directional Couplers
- Balun Transformers
- Chip Inductors

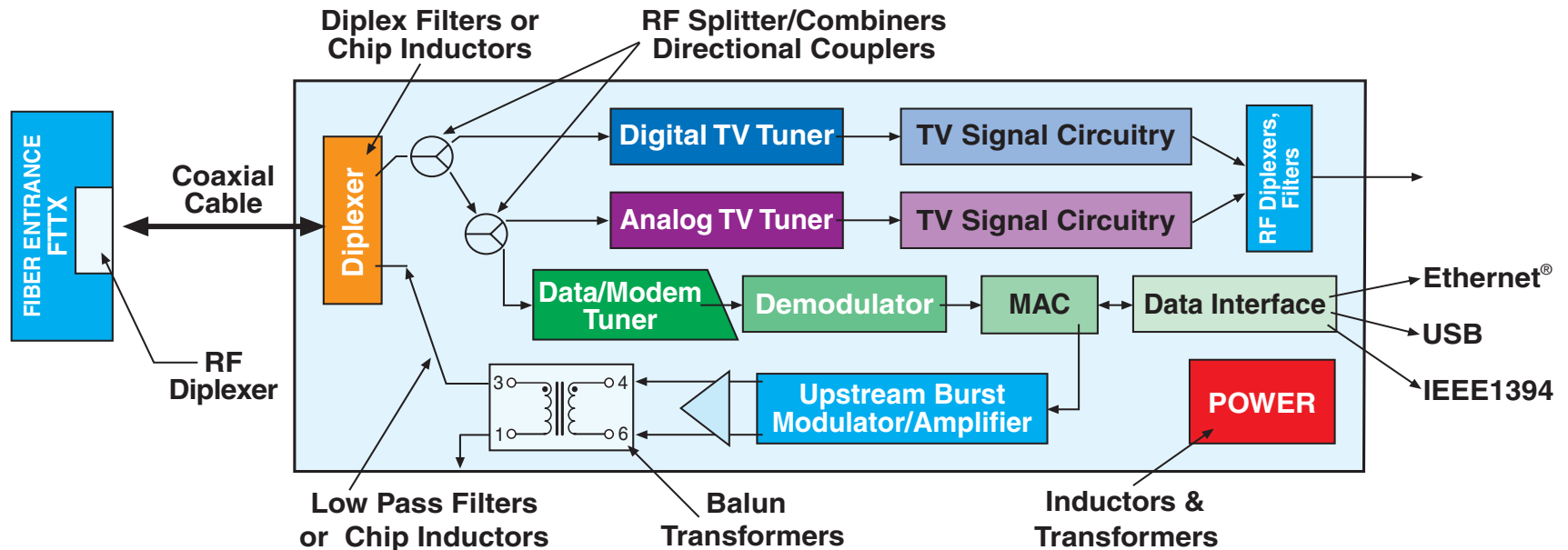
RF IC Vendors

- Anadigics
- Analog Devices
- Broadcom
- Conexant
- Entropic
- Maxim
- Microtune
- RF Microdevices

Technology Shift

New technologies being introduced worldwide are changing the frequency bands used for television/video distribution. New product applications are driving new diplexer, splitter and transformer designs.

CATV Set-Top Box Block Diagram



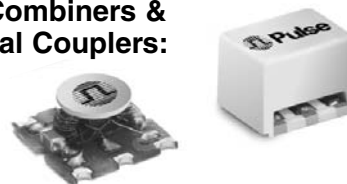
Set-Top Box Feature	Implications	Required Magnetics	Function of Magnetics	Recommended Pulse Parts	Roadmap of Emerging Products
<ul style="list-style-type: none"> • Video-On-Demand • Pay-Per-View • Integrated Modem • MOCA, HPNA/COAX 	STB offers upstream, user to headend, data; User to headend functions via remote control.	Diplex filters	Split the Upstream frequencies from the Downstream frequencies.	C6039, C6058, CX6077, Custom products	Custom shielded diplexers; improved port-to-port isolation
		Transformers / Baluns	Convert <u>balanced</u> amplifier output to <u>unbalanced</u> coaxial cable. Impedance matching.	CX2024, CX2040L, CX2078, CX2072, Custom products	Lower-cost baluns; smaller sizes
<ul style="list-style-type: none"> • Tuner ICs 	Replaces "Canned Tuner" which held a single tuner, diplexer and balun xfmr. The use of tuner ICs allows multiple tuners in single STB.	Diplex filters	Split the Upstream frequencies from the Downstream frequencies.	CX6020, CX6035, CX6008, Custom products	Custom shielded diplexers; improved port-to-port isolation in custom products
		Transformers / Baluns	Convert <u>balanced</u> amplifier output to <u>unbalanced</u> coaxial cable. Impedance matching.	CX2024, CX2040L, CX2078, CX2072, Custom products	Lower-cost baluns; smaller sizes
<ul style="list-style-type: none"> • Picture-In-Picture • On-Screen Program Guides • Data Modem • Analog Signal Tuning • Digital Signal Tuning • PVR 	Uses multiple tuners instead of single "Can". Separate tuner is required for each of the functions.	RF Splitter/Combiners (sometimes called Power Dividers).	Splits TV signal into two signals, each to separate tuners. Equal power level sent to ports 1 and 2.	C4006, CX4011, CX4004, CX4012, C4020 (Differential Mode), Custom products	Multiport Splitters (3-way, 4-way)
		Directional Couplers	Splits TV signal into two signals, each to separate tuners. Signal is split into lower power level on port 2.	C3027, CX3030, CX3042, Custom products	Family of lower cost directional couplers
<ul style="list-style-type: none"> • TV Output Port 	Multiple TV outputs, to go to VCR, TV, etc.	RF Splitter/Combiners (sometimes called Power Dividers)	Splits TV signal into two signals, each to separate tuners. Equal power level sent to ports 1 and 2.	C4006, CX4011, CX4004, CX4012, C4020 (Differential Mode), Custom products	Multiport Splitters (3-way, 4-way)
		Directional Couplers	Splits TV signal into two signals, each to separate tuners. Signal is split into lower power level on port 2.	C3027, CX3030, CX3042, Custom products	Family of lower cost directional couplers
<ul style="list-style-type: none"> • Satellite Receiver 	Higher frequencies than Cable STBs.	Balun Transformers	Convert <u>balanced</u> amplifier output to <u>unbalanced</u> coaxial cable. Impedance matching.	C2079,* Custom products	Smaller sizes; Satellite frequency splitters; SAT/VSB diplexers

NOTE: Only a portion of the available products is shown. Additional packages and products are available. Please contact Pulse Applications Engineering at (858) 674-8100 or visit the Pulse website at www.pulseeng.com

Baluns & Transformers:



Splitter Combiners & Directional Couplers:



Diplexers:

