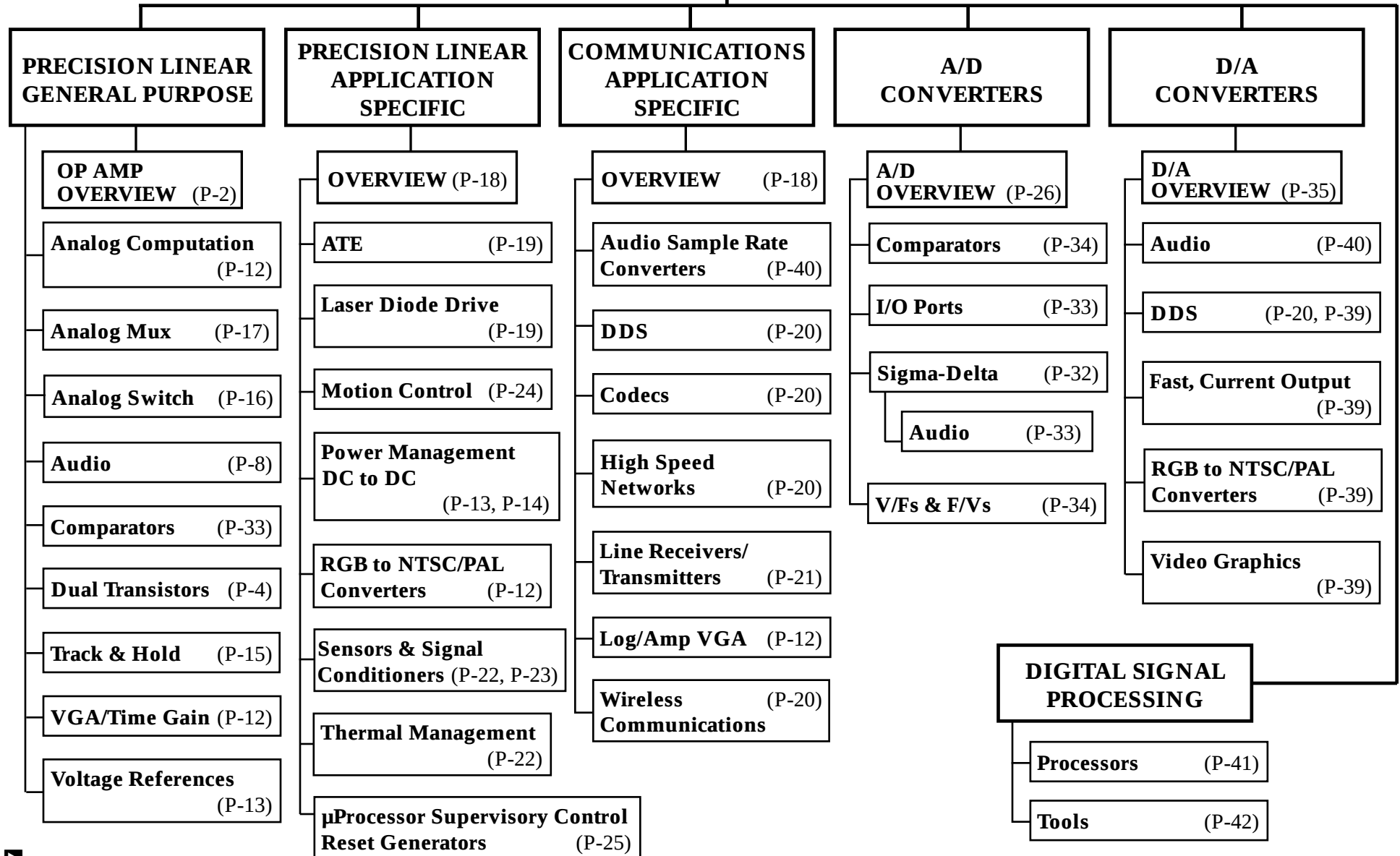
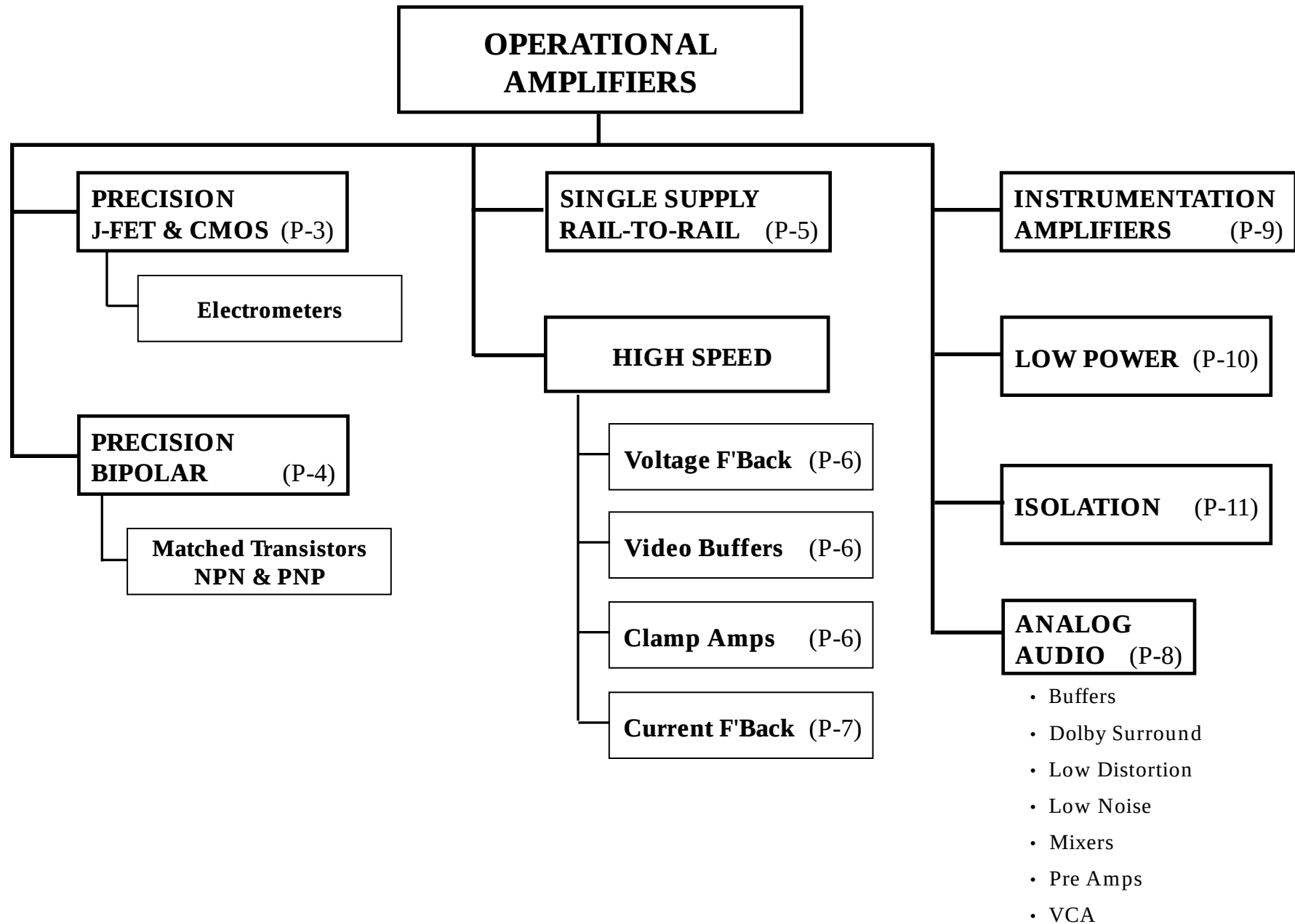
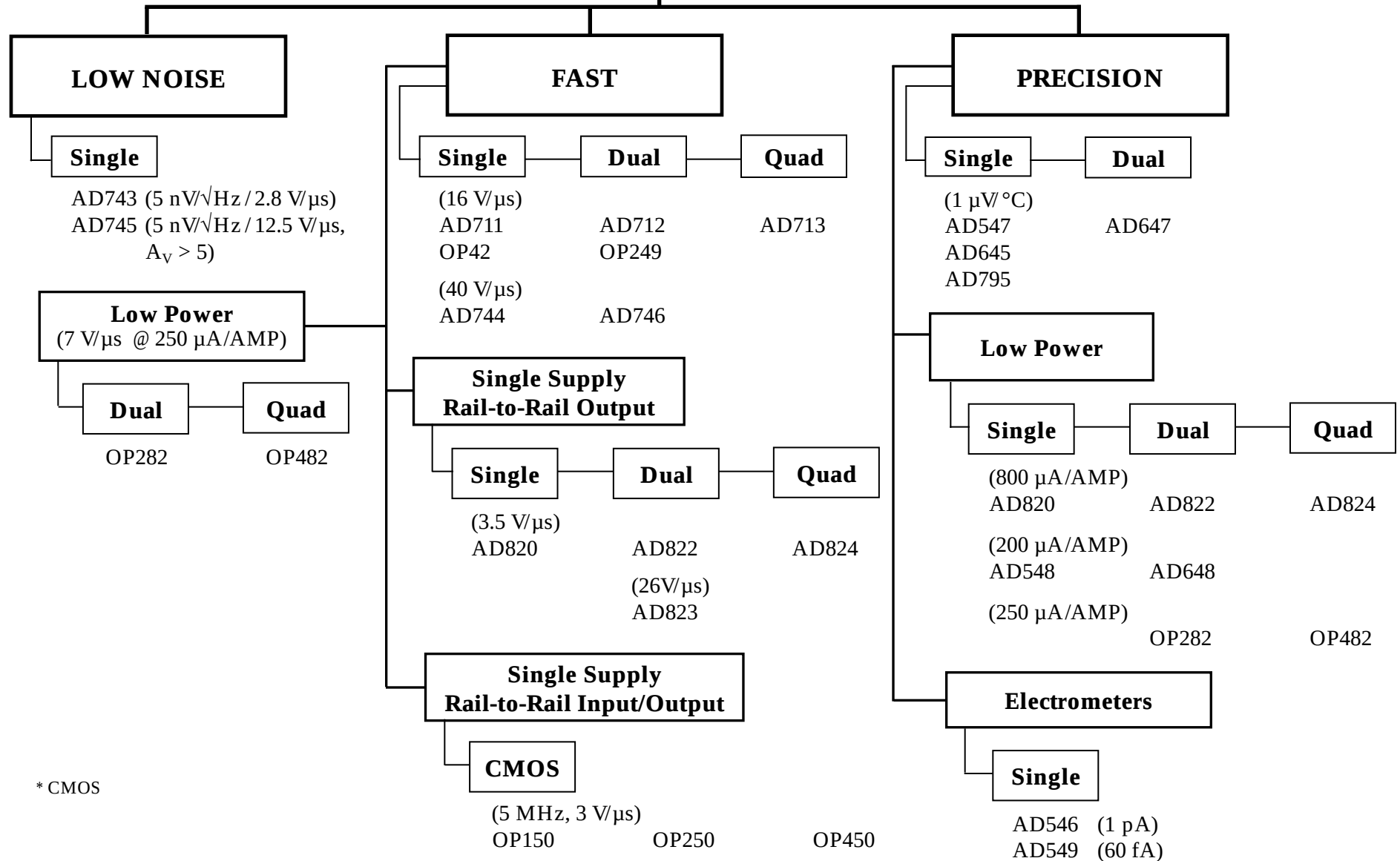


SHORT FORM "ROAD MAP"





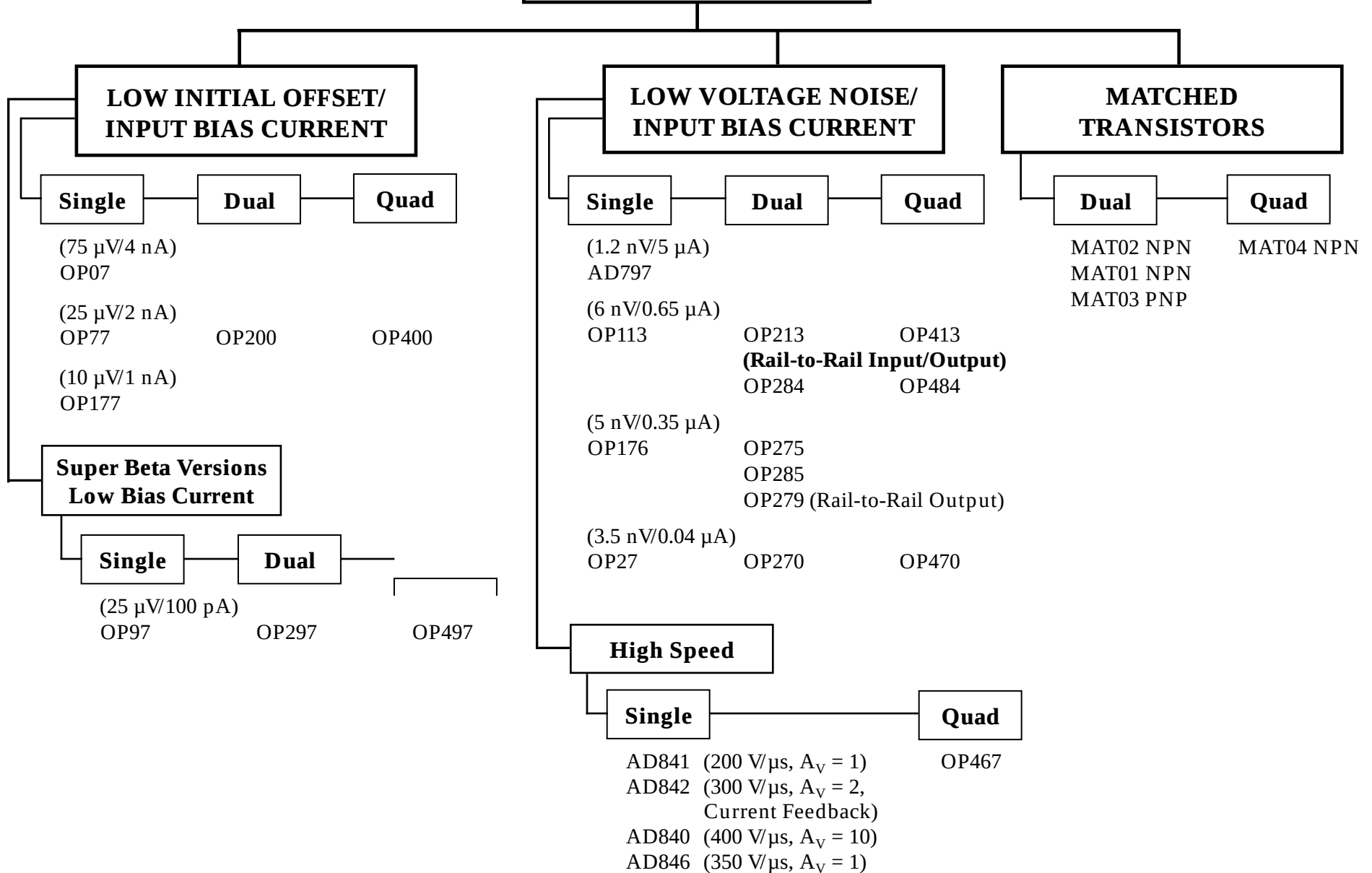
J-FET AMPLIFIERS

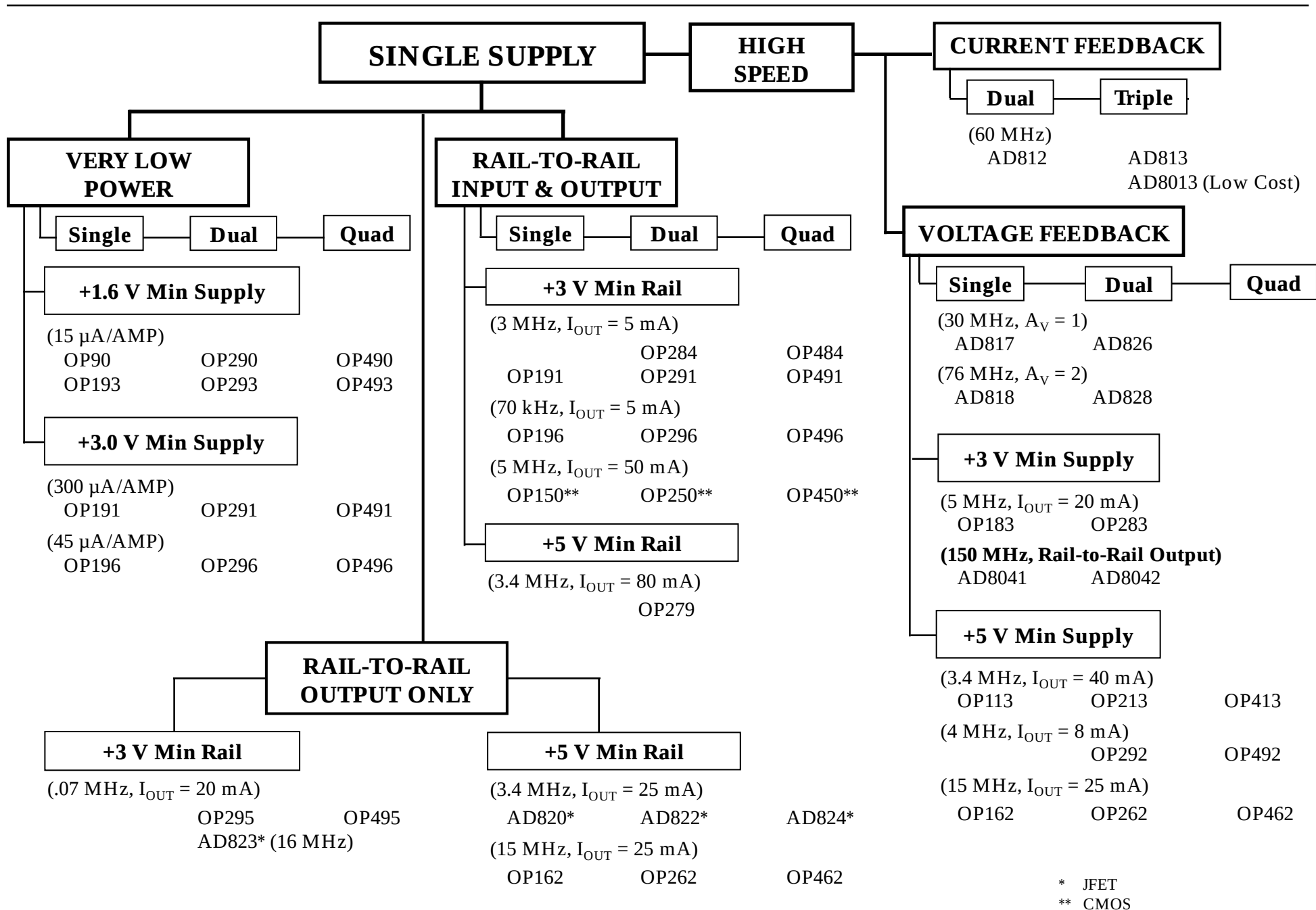


* CMOS

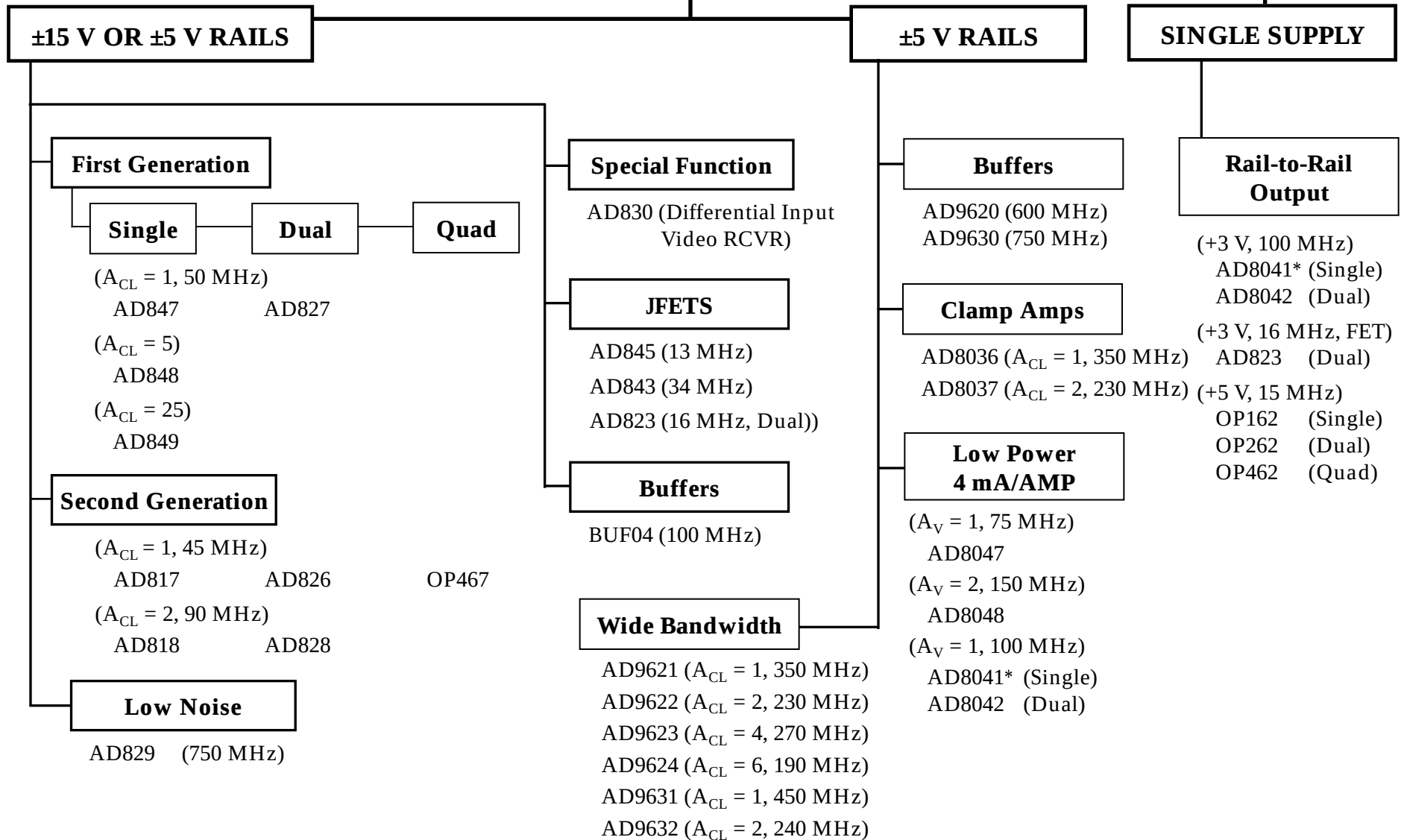


PRECISION BIPOLAR AMPLIFIERS



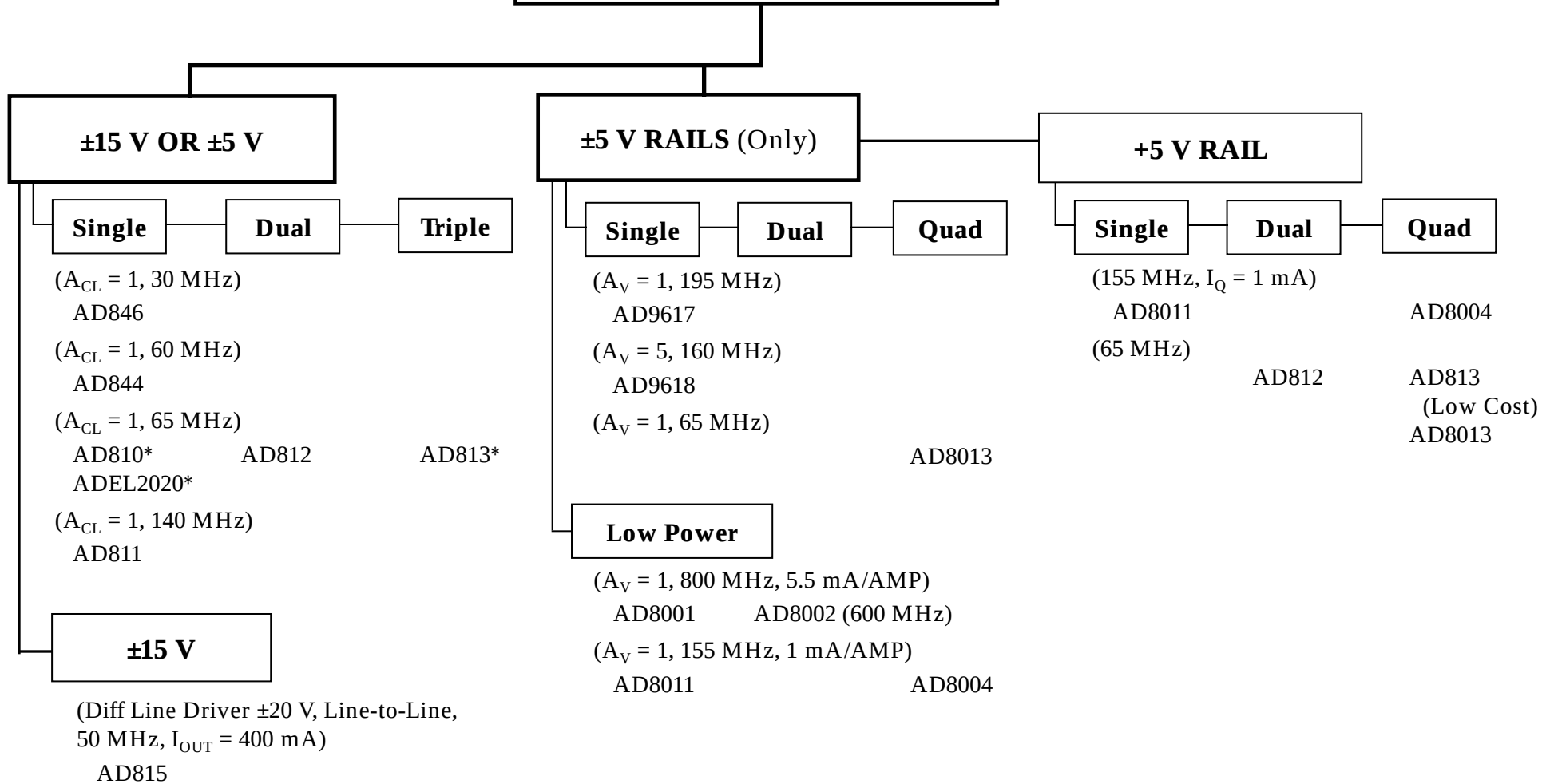


HIGH SPEED AMPLIFIERS VOLTAGE FEEDBACK



*Output Disable Function

HIGH SPEED AMPLIFIERS CURRENT FEEDBACK



* Output Disable Function

AUDIO

PRE AMPS

SSM2017 (Low Noise Pre-Amp)
SSM2165 (Variable Comp & Noise Gating)**
SSM2166 (SSM2165 w/More Features)**

DIFFERENTIAL LINE DRIVERS RECEIVERS

Drivers

SSM2142

Receivers

SSM2141 ($A_V = 1$)
SSM2143 ($A_V = 2$)

BUFFERS

BUF04 (3000 V/ μ s)

CLICKLESS SWITCHES

SSM2402 / SSM2412 (Dual)
SSM2404 (Quad)

BIPOLAR OP AMPS

Single

(Low Noise, Wide Bandwidth)
AD797 (0.9 nV, -120dB THD @ 20kHz)
AD829 (1.7 nV, 230 V/ μ s)
AD811 (1.9 nV, 2500 V/ μ s)
(NE5534 Upgrade) OP176

Dual

(NE5532 Upgrade) OP275

Quad

Single Supply

AD820 (FET)* OP113
AD822 (FET)* OP213
AD824 (FET)* OP413
OP279* ($I_{OUT} = 80$ mA)
SSM2135

Rail-to-Rail Input/Output

(OP27 Type Performance)
OP284 OP484

FETS

AD843 OP249
AD711 / AD744 AD712 / AD746 AD713
AD820* AD822* AD824*
OP42 AD823*

(Low Voltage Noise)
AD743
AD745

SPECIAL FUNCTION

Dolby Surround Sound

(Separation)
SSM2125A (-35dB)
SSM2126A (-25dB)

"HUSH" Stereo Noise Reduction, -25 dB Any Source

SSM2000

VOLTAGE CONTROLLED AMPLIFIERS

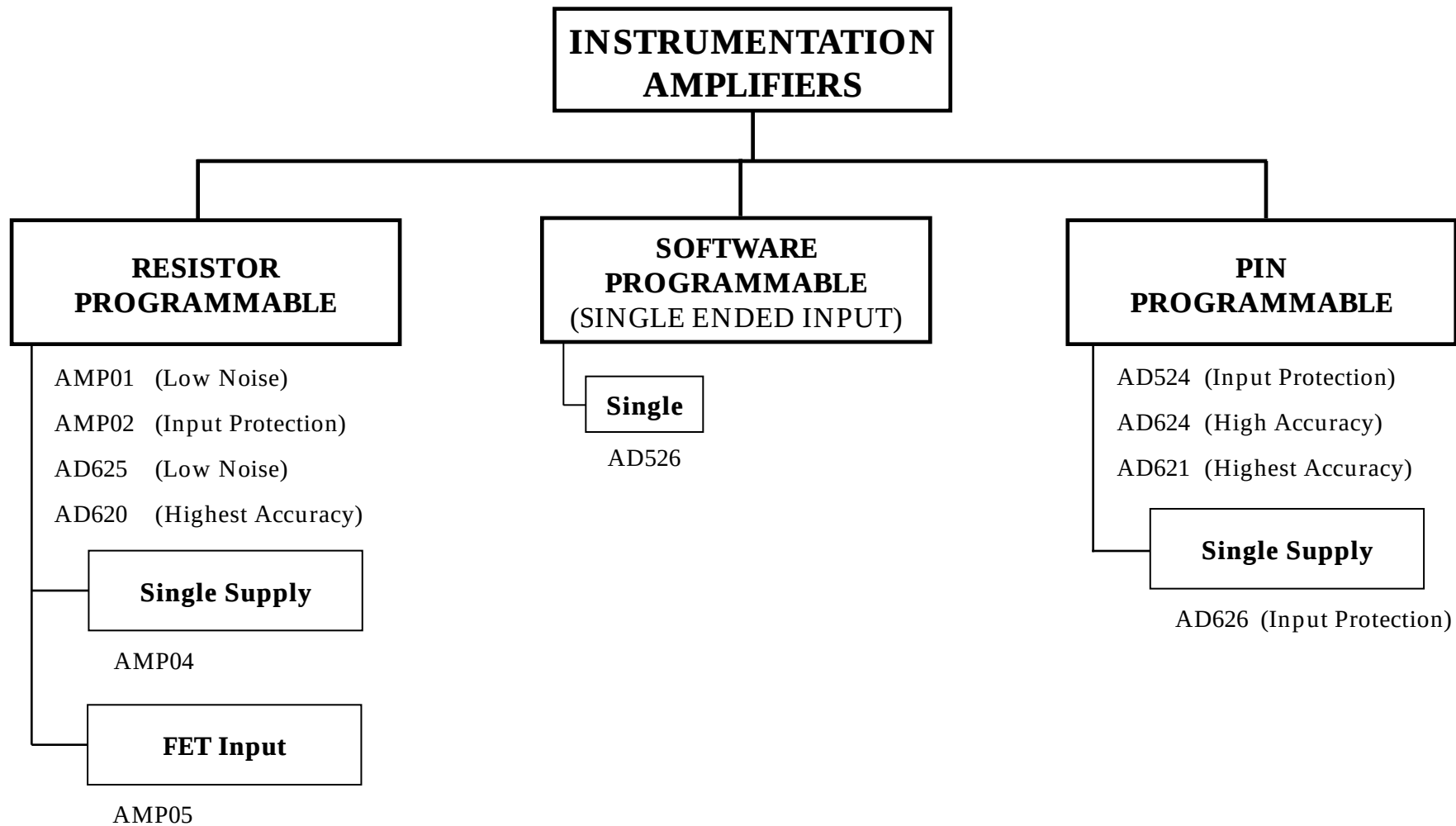
SSM2018T / SSM2118T (Trimmed)
SSM2120 (Dual w / Level Detector)
SSM2122 (Dual w/o Level Detector)
SSM2164 (Quad, Current In / Out)

DIGITAL MIXERS

SSM2163 (8 x 2, 6-Bit, 1 dB/Step)

* Rail-to-Rail Output

** Prelim Info Only



LOW POWER

PRECISION

Bipolar

Single

Dual

Quad

(800 μ A/AMP)

AD705

AD706

AD704

OP97

OP297

OP497

(300 μ A/AMP, Rail-to-Rail Input/Output)

OP191

OP291

OP491

FETs

Single

Dual

Quad

(600 μ A/AMP, Rail-to-Rail Output)

AD820

AD822

AD824

(250 μ A/AMP)

OP282

OP482

VERY LOW POWER

Single

Dual

Quad

(15 μ A/AMP)

OP90

OP290

OP490

Single Supply

Single

Dual

Quad

(15 μ A)

OP193

OP293

OP493

(45 μ A Rail-to-Rail Input and Output)

OP196

OP296

OP496

CMOS

Single

Dual

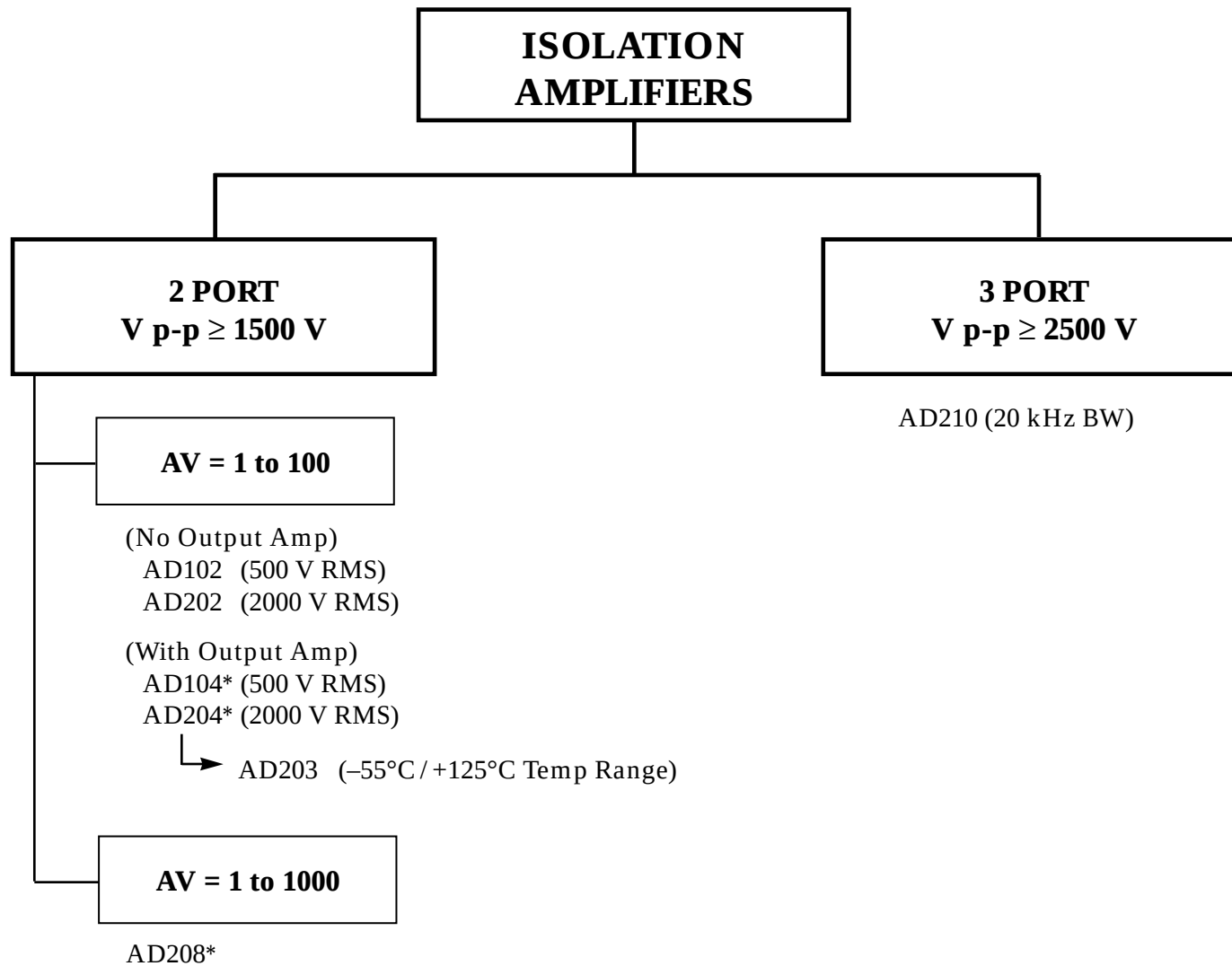
Quad

(500 μ A / AMP, 5 MHz, Rail-to-Rail Input/Output)

OP150

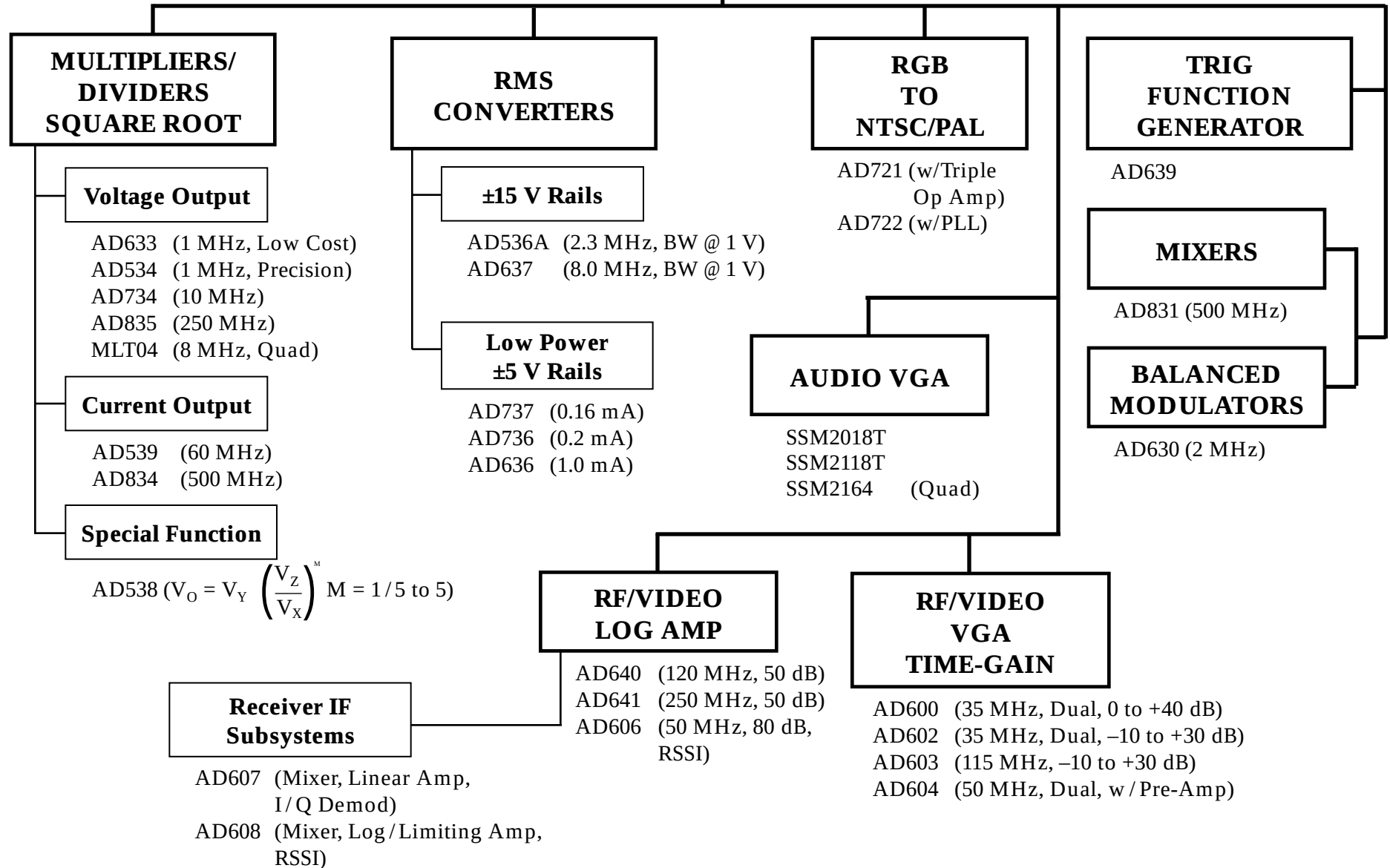
OP250

OP450



*Multichannel: Require Clock Driver AD246

ANALOG COMPUTATION CIRCUITS



POWER MANAGEMENT

REFERENCES

TWO TERMINAL REGULATORS

AD1580 (+1.2 V, 2 Term)

FIXED OUTPUT

SELECTABLE OUTPUT

AD584

(2.5 V, 5.0 V, 7.5 V
or 10 V)

AD588

(+5 V & +10 V, -5 V
& -10 V or ± 5 V)

LOW DROPOUT REGULATORS

($I_{OUT} = 40$ mA)

ADM663 (Fixed +5 V; +1.6 V to +16 Adj.)

ADM666 (Fixed +5 V; +1.6 V to +16 Adj.
w/ Low Battery Monitor)

($I_{OUT} = 100$ mA)

ADM663A (Fixed +3.3 V or +5 V; +1.6 V to +16 Adj.)

ADM663A (Fixed +3.3 V or +5 V;
+1.6 V to +16 Adj. w/ Low Battery Monitor)

($I_{OUT} = 200$ mA)

ADP667 (Fixed +5 V, +3.5 to +16 Adj.)

PRECISION REFERENCE W/ LOW DROPOUT

($I_Q = 46$ μ A, $I_{LOAD} = 30$ mA)

REF191 (+2.048 V)

REF195 (+5.0 V)

REF192 (+2.5 V)

REF196 (+3.3 V)

REF193 (+3.0 V)

REF198 (+4.096 V)

REF194 (+4.5 V)

1.23 Volts

AD589
($I_Q = 10$ μ A)

2.5 Volts

AD580
AD680
REF43
AD1403
AD1403A

**2.5 Volts or
3 Volts**

AD780 (Low Noise)

5.0 Volts

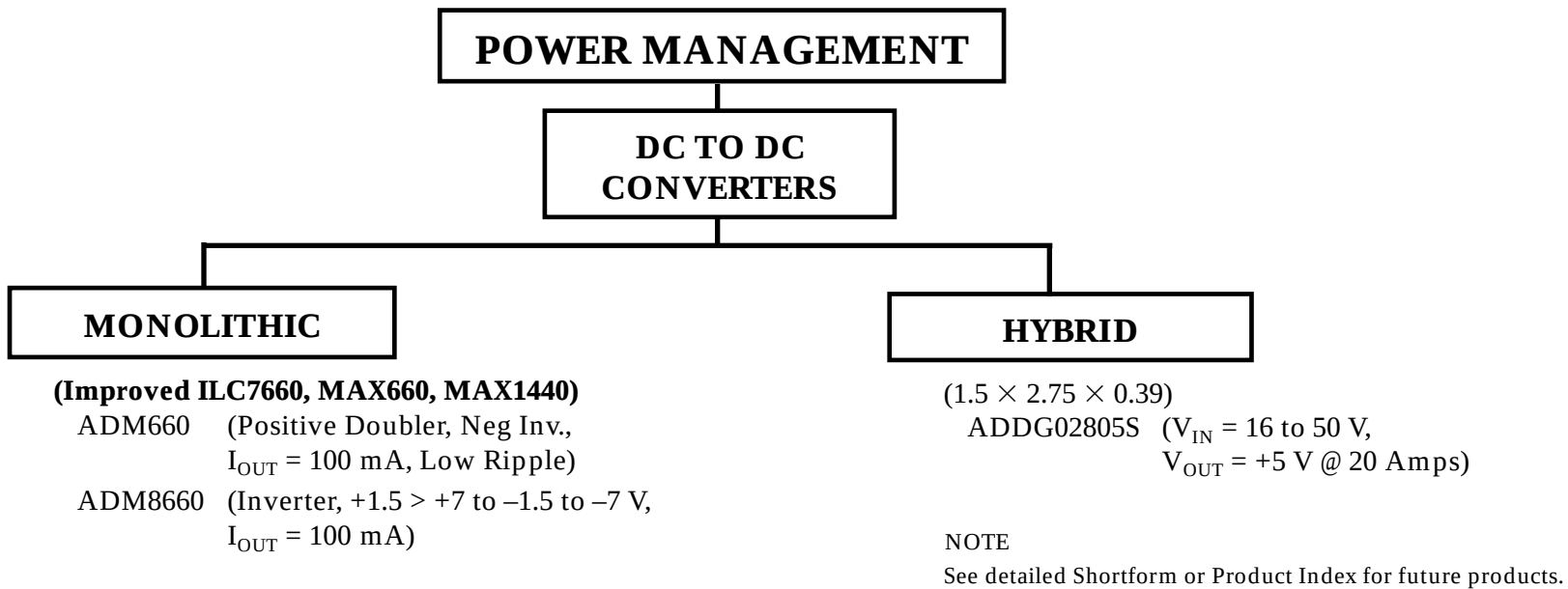
AD586
REF02

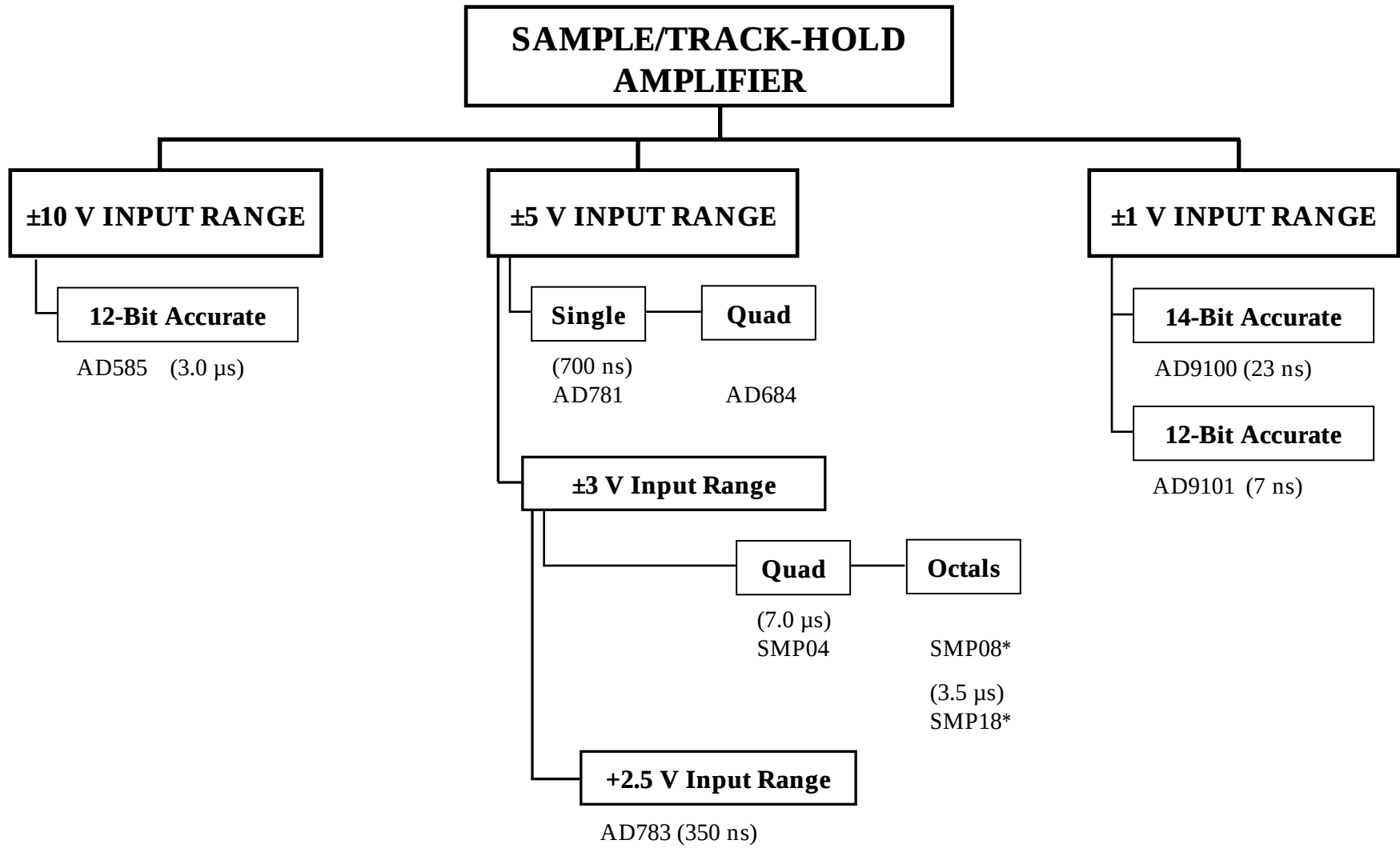
10 Volts

AD581
AD587
REF01

± 10 Volts

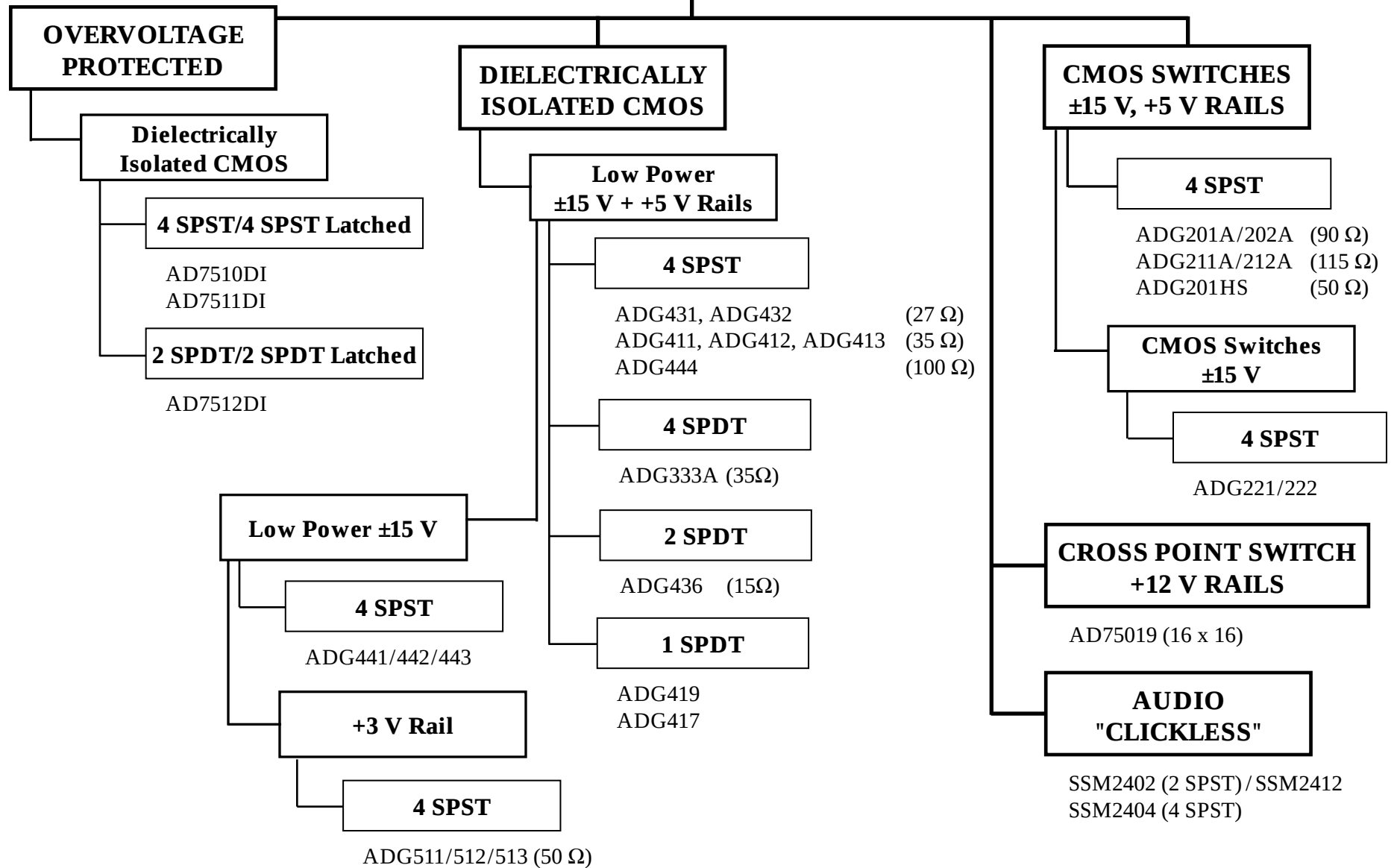
AD688



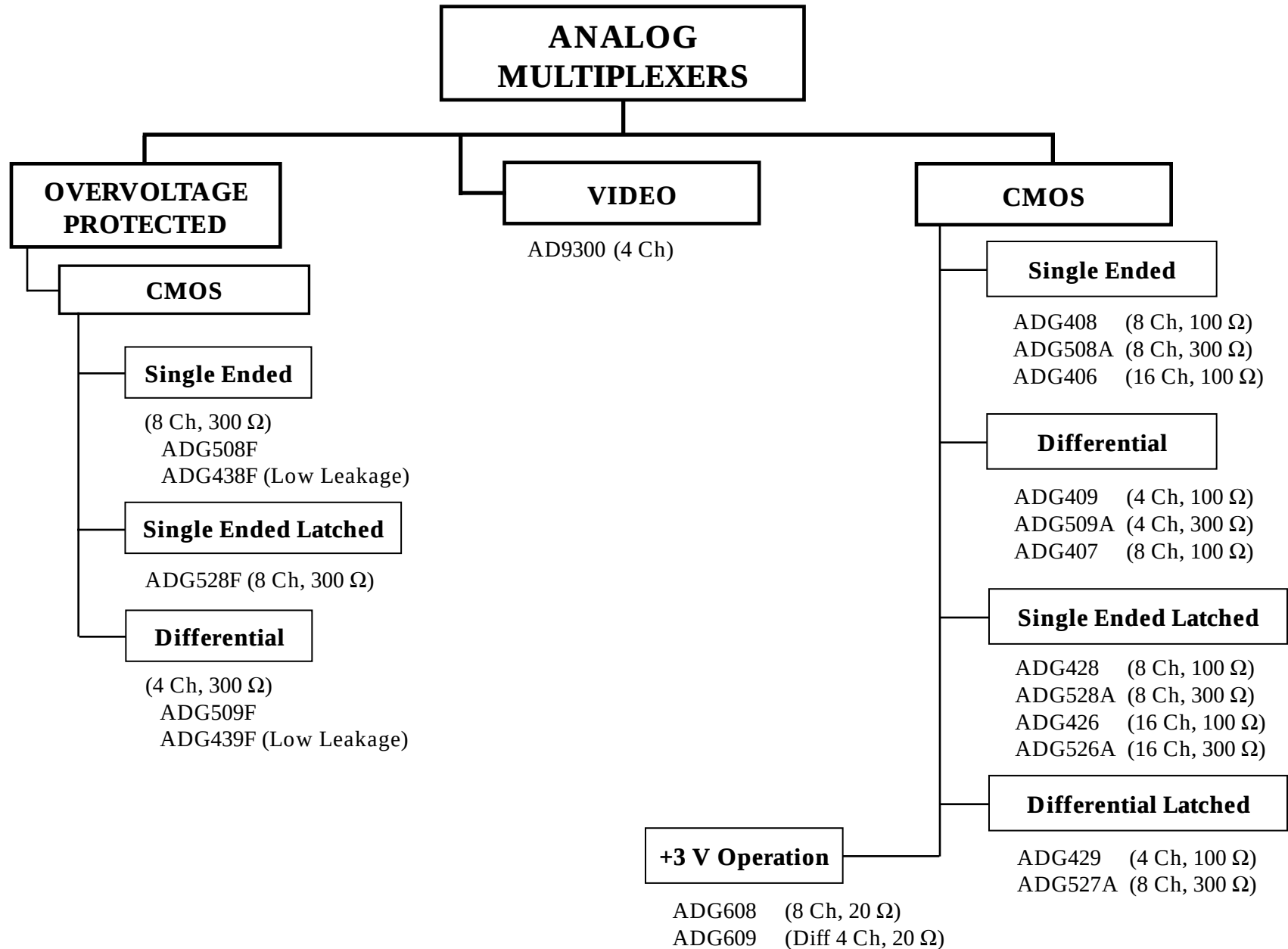


* One Input, Eight Outputs

ANALOG SWITCHES



* ADGxxx / xxx / xxx = 4 Normally closed / 4 Normally open /
2 Normally open / 2 Normally closed



OVERVIEW APPLICATION SPECIFIC CIRCUITS

SENSORS & SIGNAL CONDITIONER (P-22, P-23)

- Monolithic
- Hybrids

Automotive

Temperature Transducers

Temperature Controllers

Process Control 4 to 20 mA

MOTION CONTROL (P-24)

- R/D
- D/R
- LVDT
- Vector Processor
- Motion Control Coprocessor

COMMUNICATION (P-20)

- Wireless
- Telcom
- Datcom

HIGH SPEED NETWORKS

T45 STS-1
DS-3 STM-1
OC-1/3 ATM

RS-232
RS-422/423
RS-485
EIA/TIA-562 (P-21)

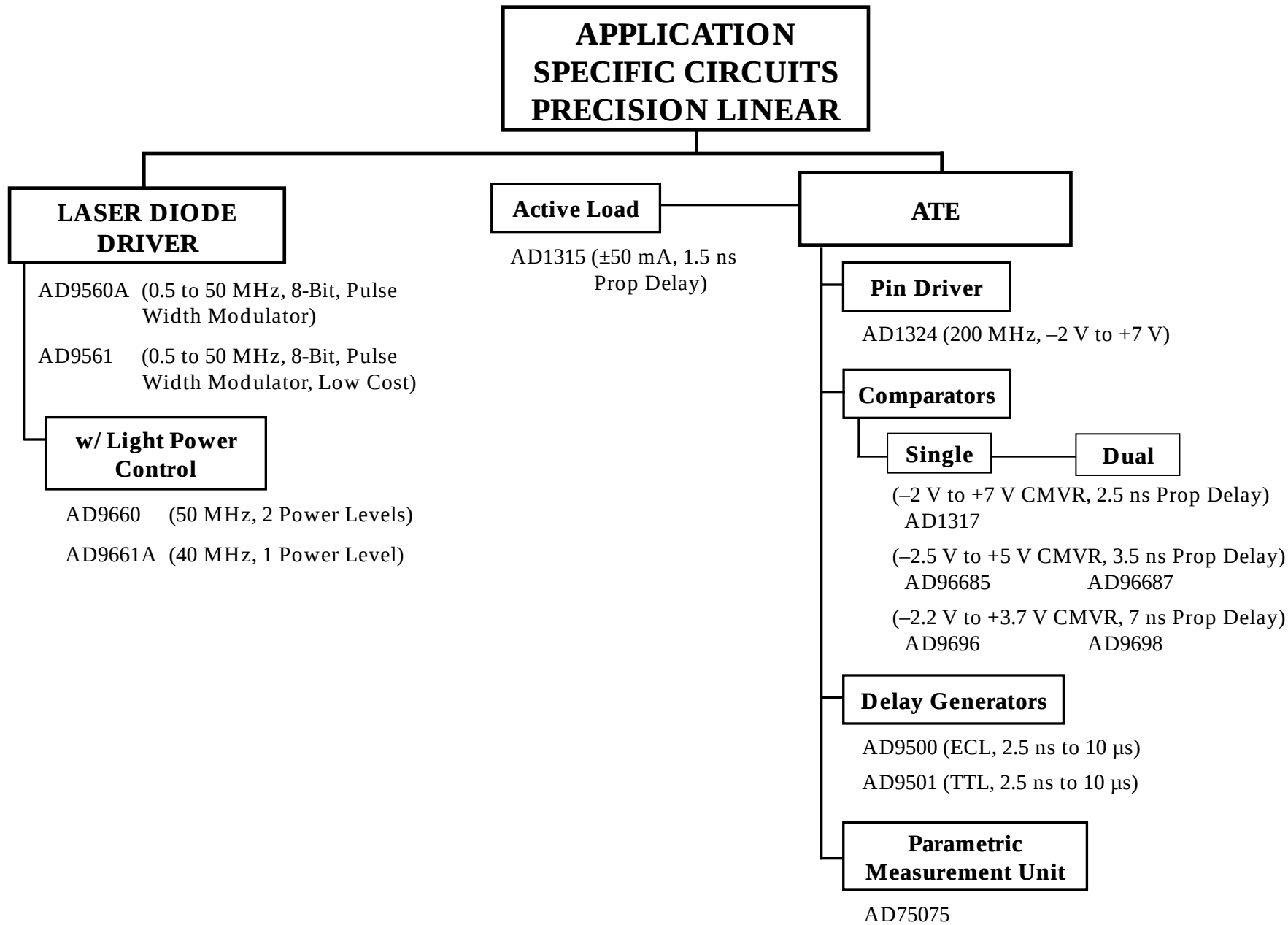
μPROCESSOR SUPERVISORY CIRCUITS (P-25)

- V_{CC} Monitor
- V_{BATT} Monitor
- Watchdog Timer

ATE (P-19)

- Pin Drivers
- Comparators
- Active Load
- Delay Generators

LASER DIODE CONTROL (P-19)



COMMUNICATIONS APPLICATION SPECIFIC CIRCUITS

CLOCK RECOVERY & DATA RECOVERY RECEIVERS

WIRELESS

AD7001 (GSM Baseband I/O Port)
 AD7002 (GSM Baseband I/O Port
 With I/Q RF/IF Modulators)
 AD7010 ($\pi/4$ DQPSK Baseband
 Transmit Port
 JDC STD $\alpha = 0.35$)
 AD7011 ($\pi/4$ DQPSK Baseband
 Transmit Port
 IS-54 STD $\alpha = 0.35$)
 AD7013 (Baseband Receiver Port
 for TIA or Analog Cellular)
 AD7015 (GSM Baseband I/O Port &
 Voiceband CODEC)
 AD20msp410 (DSP/Chip Set for GSM)

Direct Digital Synthesis

AD7008* (IF Modulator 35 MHz,
 On-Board 10-Bit D/A)
 AD9901 (70 MHz, "No Dead Zone,"
 Phase Frequency Discriminator)

TELCOM/ DATCOM

AD28msp01 (V.32 Modem Codec)
 AD28msp02 (Voiceband Codec)
 AD1843 (Combo Modem/Audio)

Mixer

AD831 (500 MHz, RF + IF,
 +24 dBm, IP3)

Log Amps

AD640 (120 MHz, 50 dB)
 AD641 (250 MHz, 50 dB)
 AD606 (50 MHz, 80 dB w/ RSSI)

IF Subsystems Receivers

AD607 (Mixer, AGG, RSSI)
 AD608 (Mixer, Limiter, RSSI)

VGA Linear in dB

See Page 12

Sonet

Internal VCXO

AD800 (45 MHz) DS-3
 AD800 (52 MHz) ST3-1
 AD802 (155 MHz) OC-3, ST3-3
 STM-1
 AD803 (16/30 MBPS) PON'S
 AD807 (155 MHz) OC-3
 SDH-STM-1
 Type A

External VCXO

AD805 OC-3, STS-3
 STM-1
 Type A or B

ATM

AD6816 (155 MHz) UTP #5

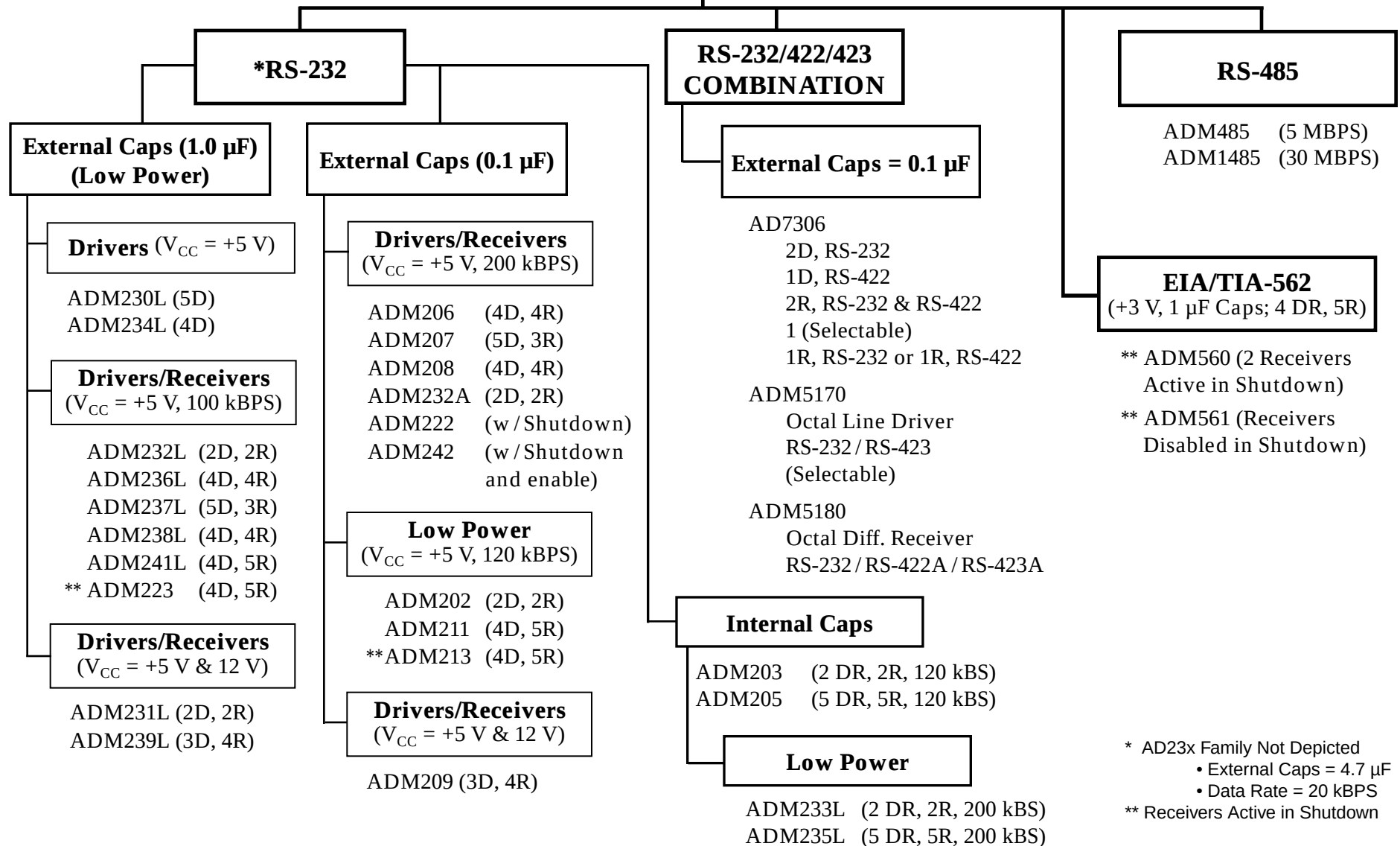
Frequency Synthesizer

AD809 (9.72 / 19.44 MHz Input,
 155.52 MHz Output)

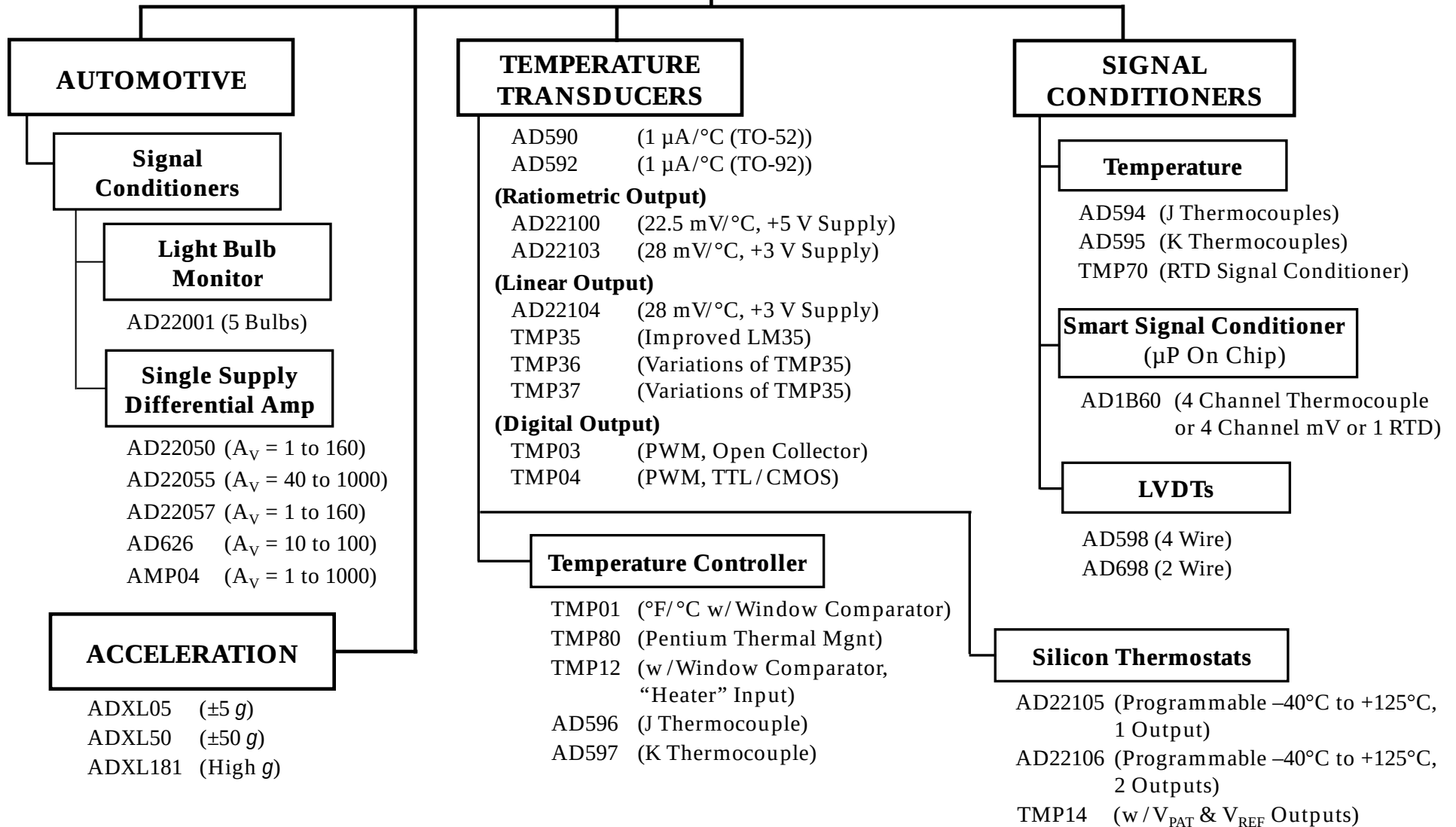
Photo Diode Pre Amp

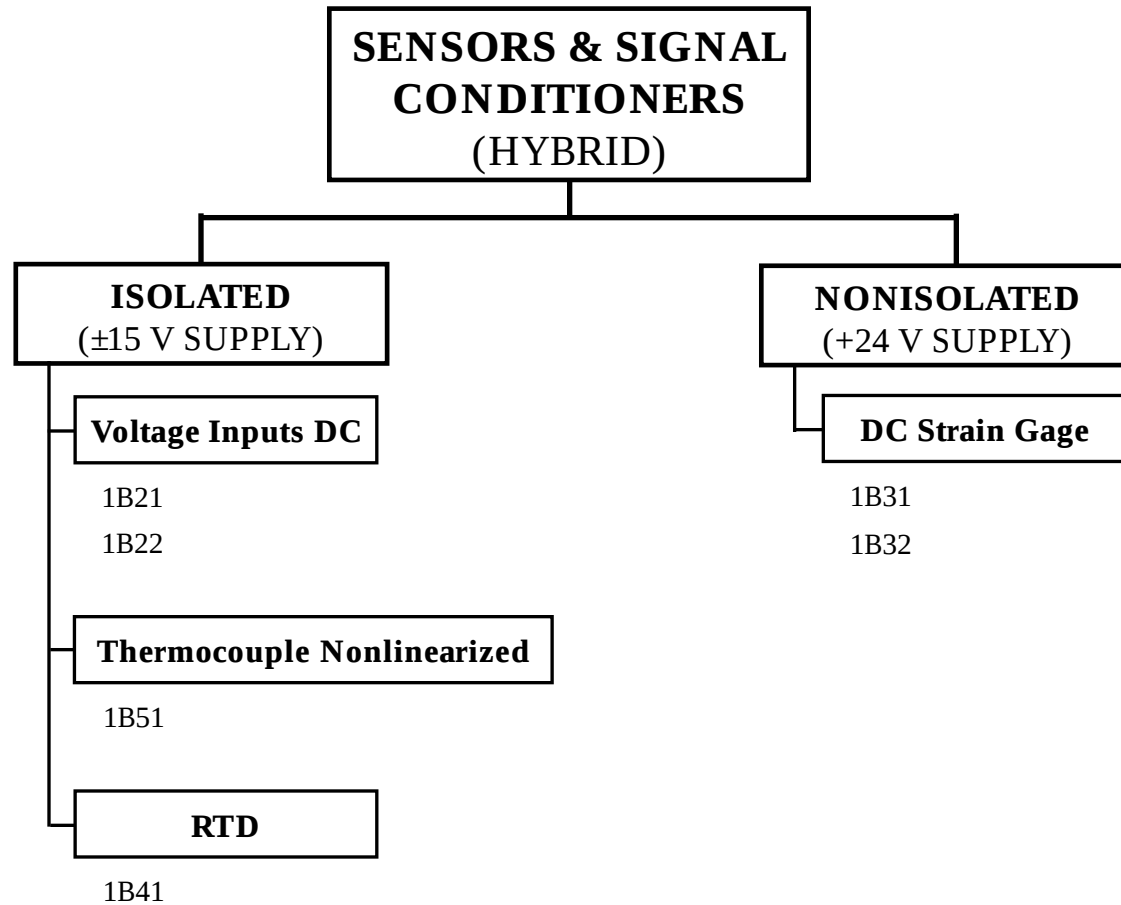
AD8015 (155 MHz)

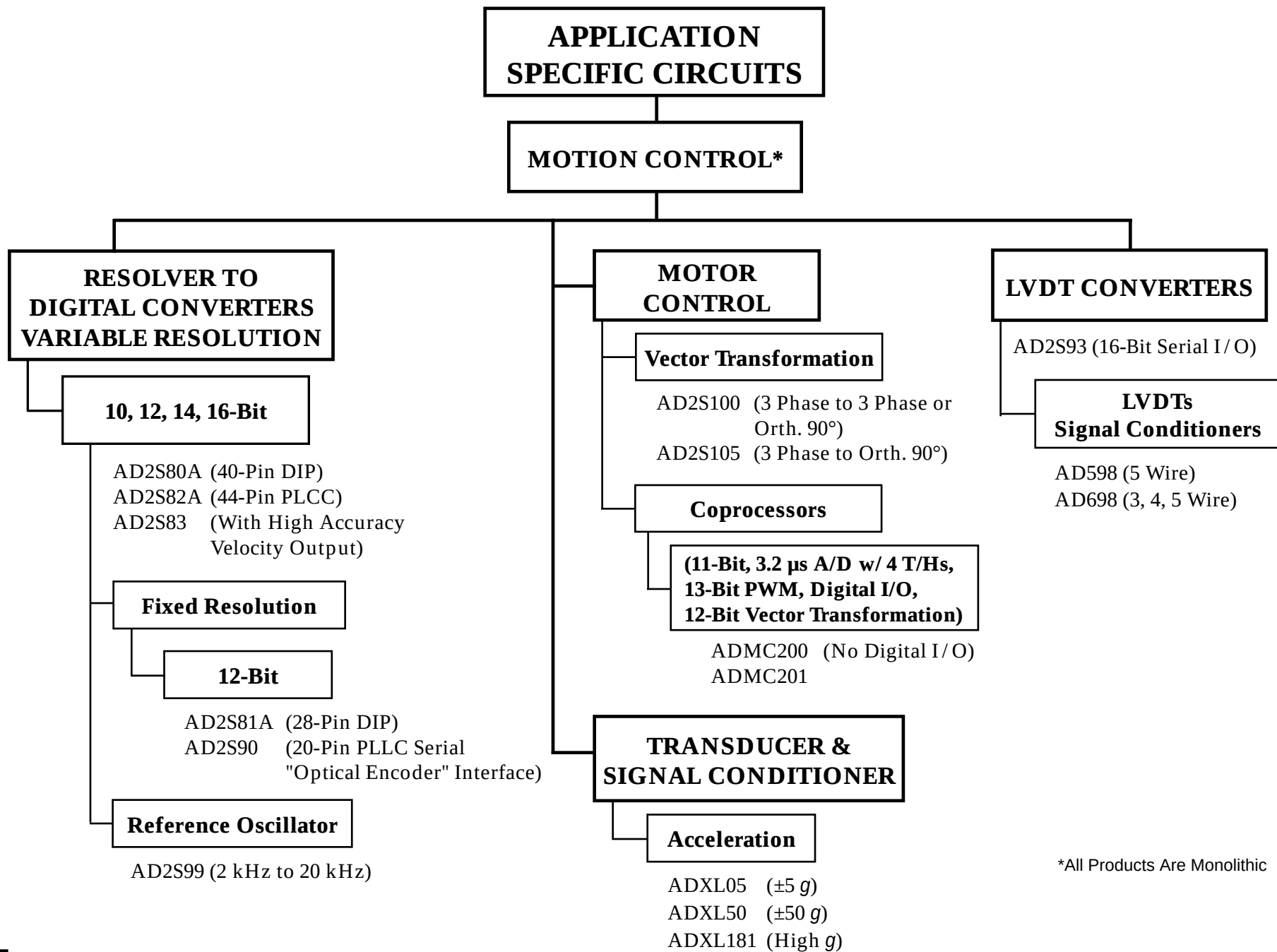
COMMUNICATIONS APPLICATION SPECIFIC CIRCUITS



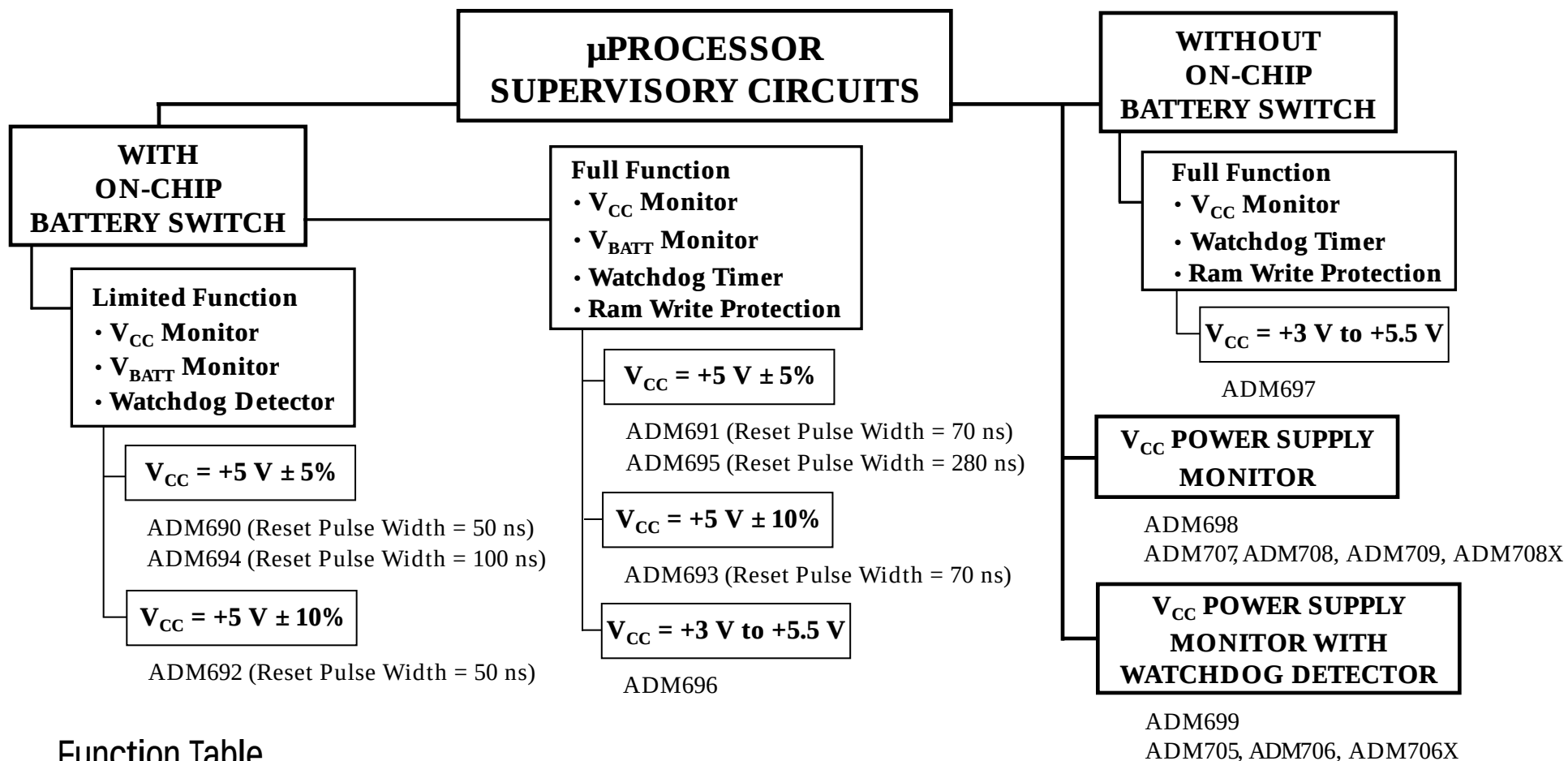
SENSORS & SIGNAL CONDITIONERS (MONOLITHIC)







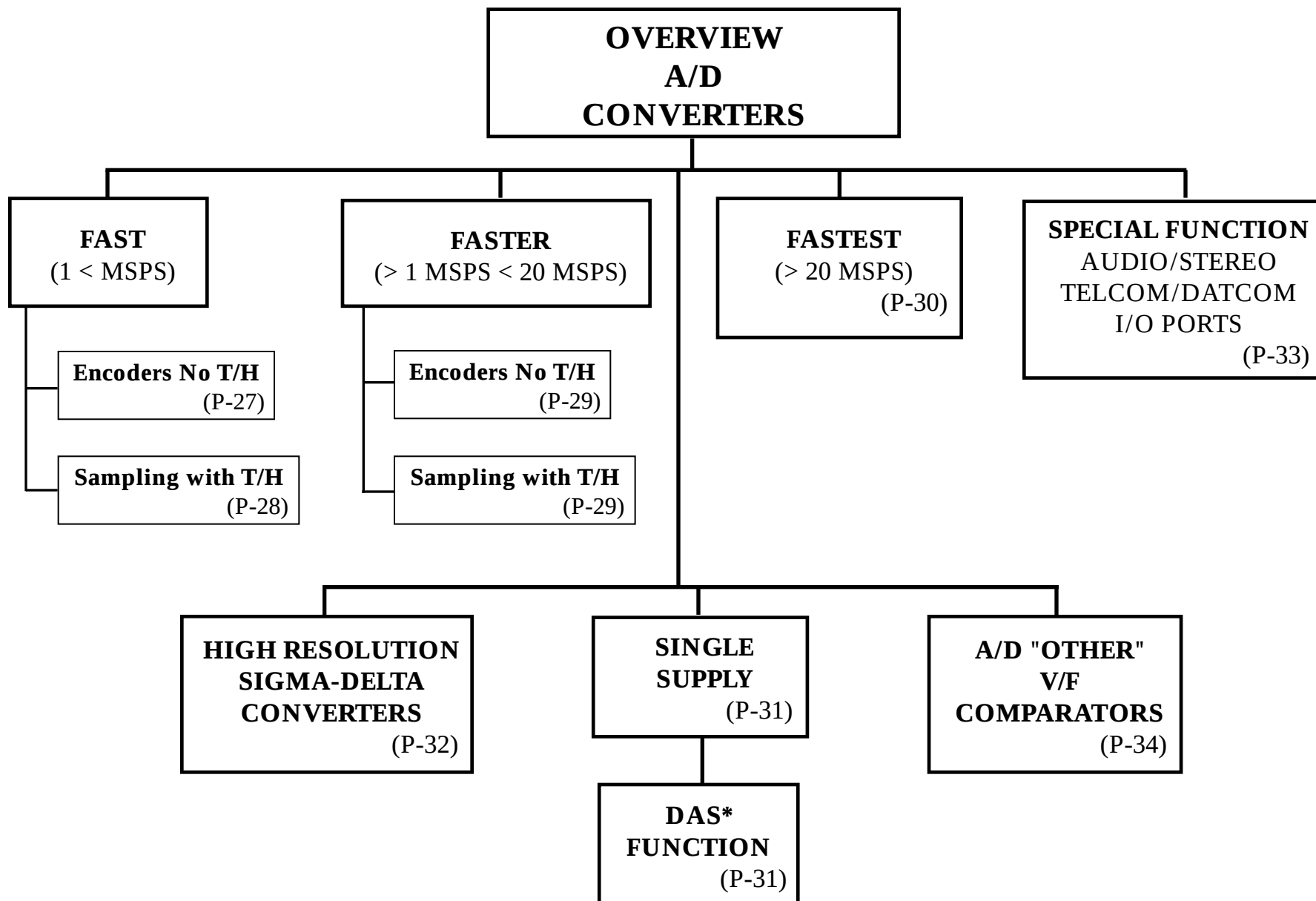
*All Products Are Monolithic



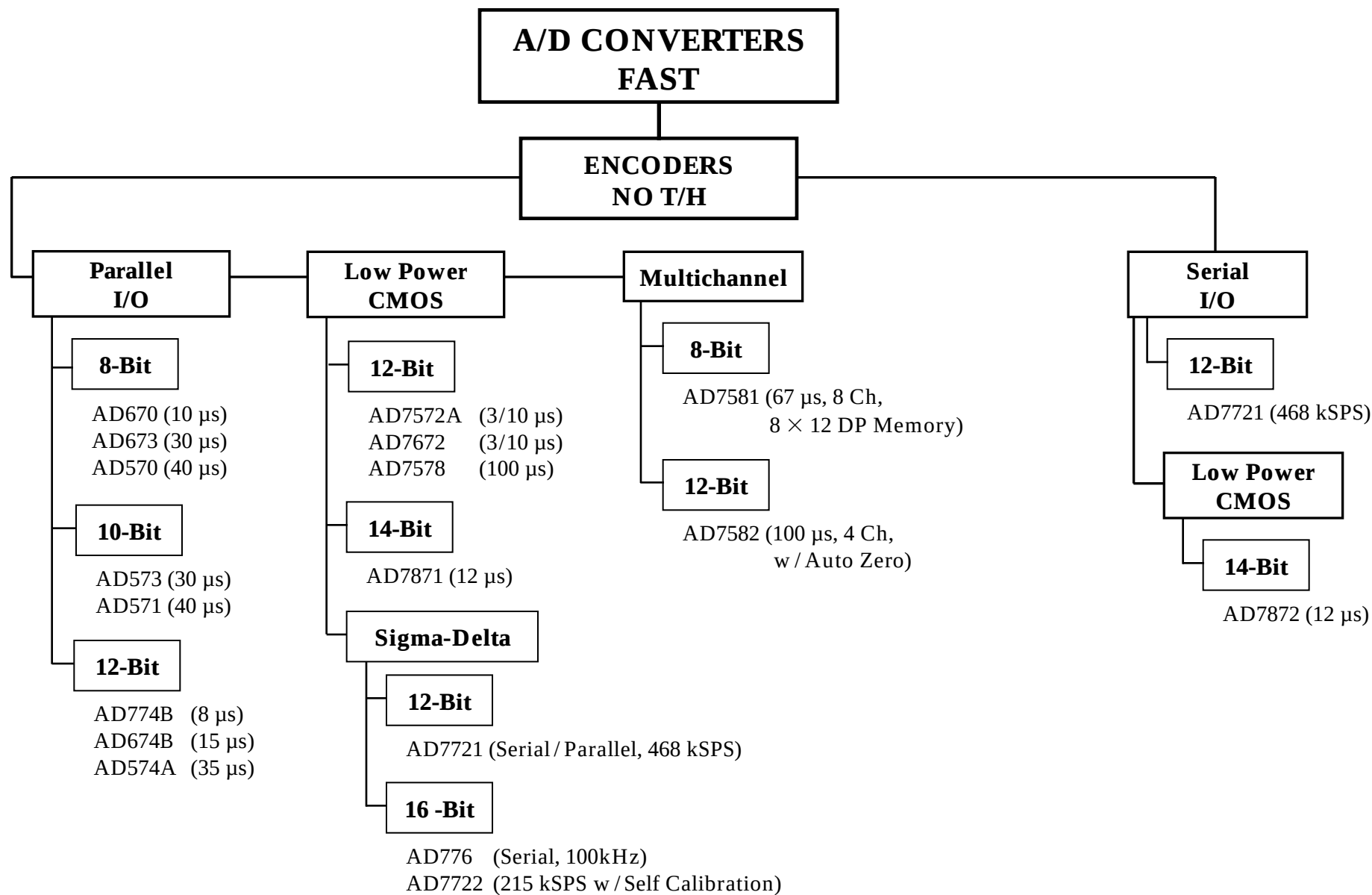
Function Table

ADM690–ADM699 Functions	ADM690	ADM691	ADM692	ADM693	ADM694	ADM695	ADM696	ADM697	ADM698	ADM699	ADM705	ADM706	ADM707	ADM708	ADM709
Fixed Power Up/Down Reset	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓
Variable Power Up/Down Reset							✓	✓							
Battery Backup Switching	✓	✓	✓	✓	✓	✓	✓								
Watchdog Timer	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓			
Power Failing Warning	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	
Write Protect		✓		✓		✓		✓							
Manual Reset											✓	✓	✓	✓	
+3 V Systems												✗		✗	✓



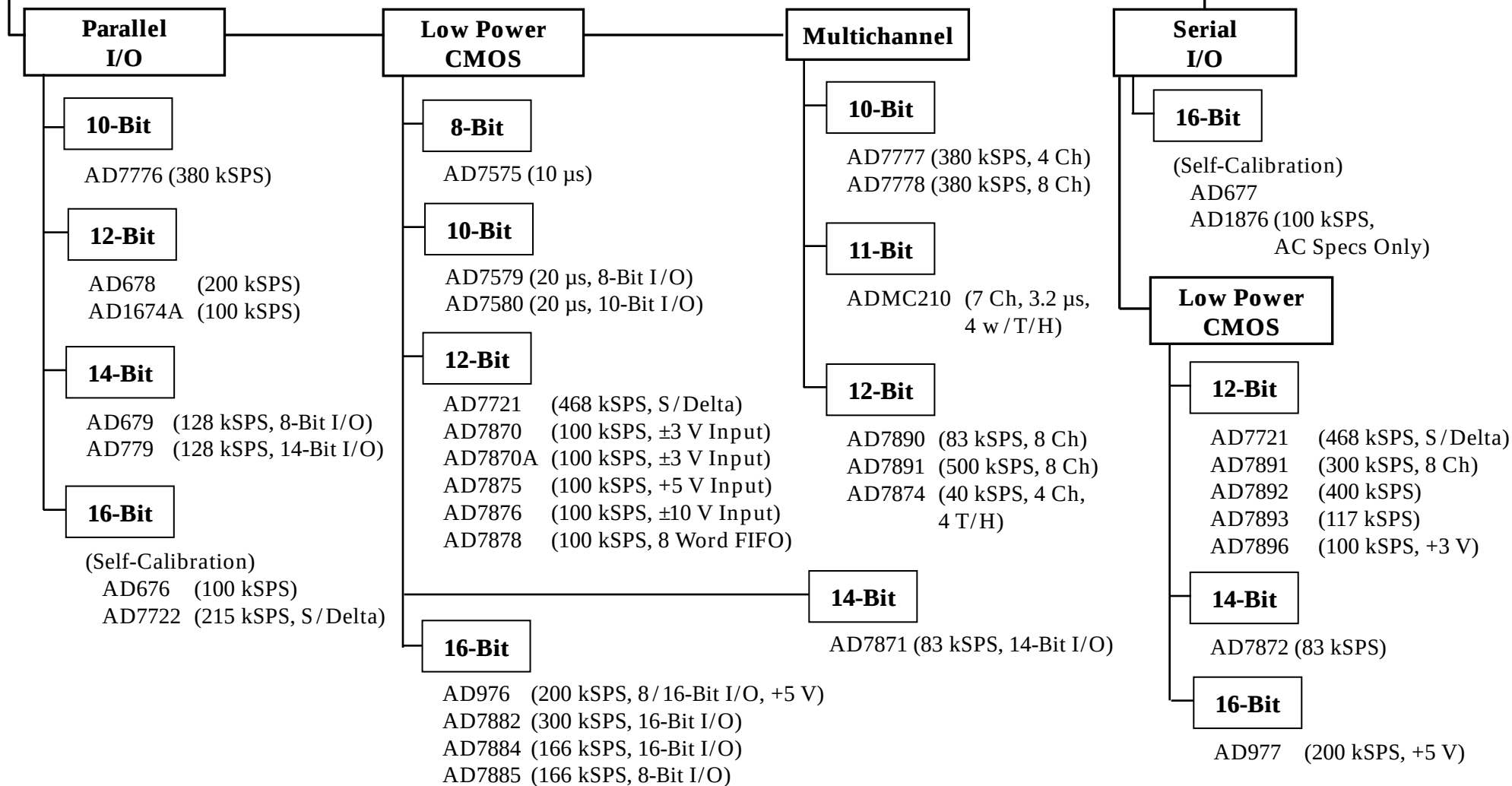


* DAS = Data Acquisition System: MUX, T/H & A/D

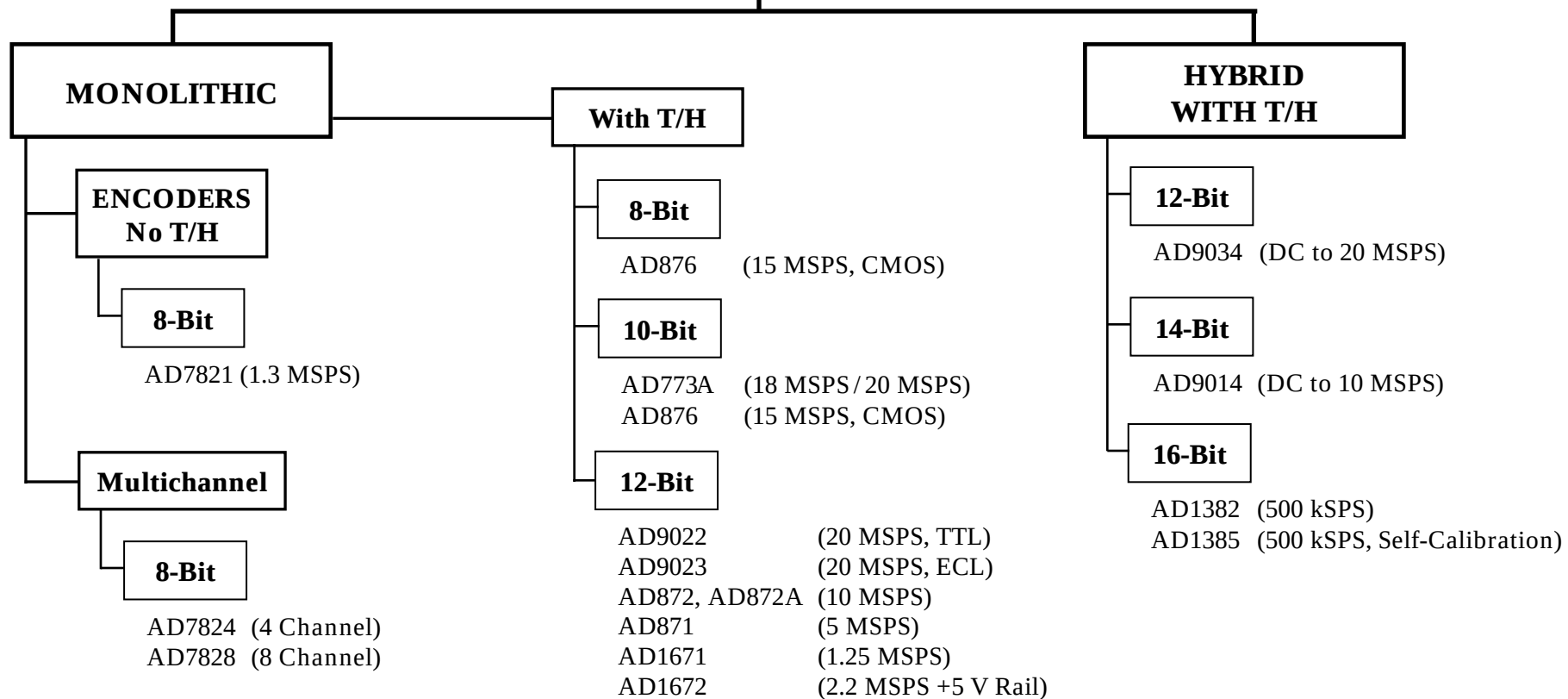


A/D CONVERTERS FAST

SAMPLING WITH T/H

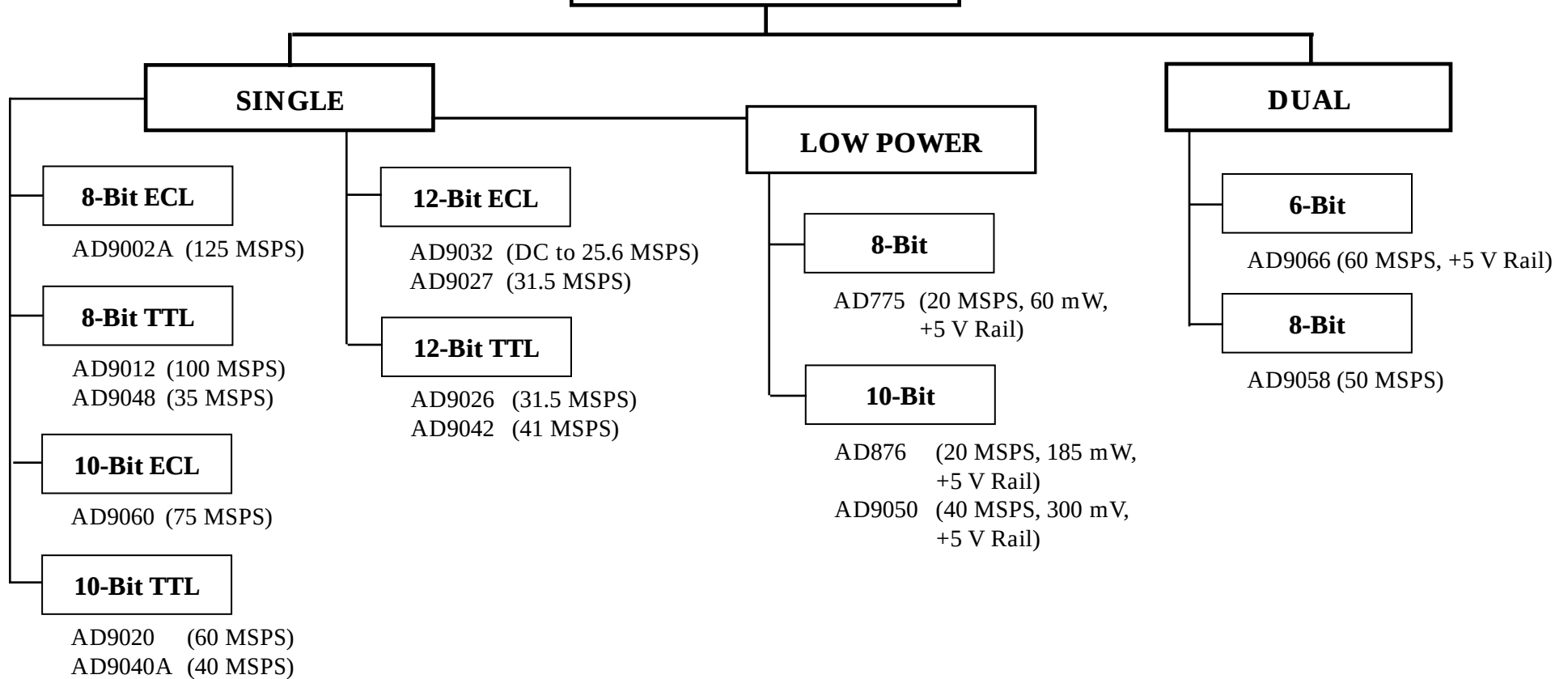


A/D CONVERTERS FASTER¹ (> 1 MSPS < 20 MSPS)

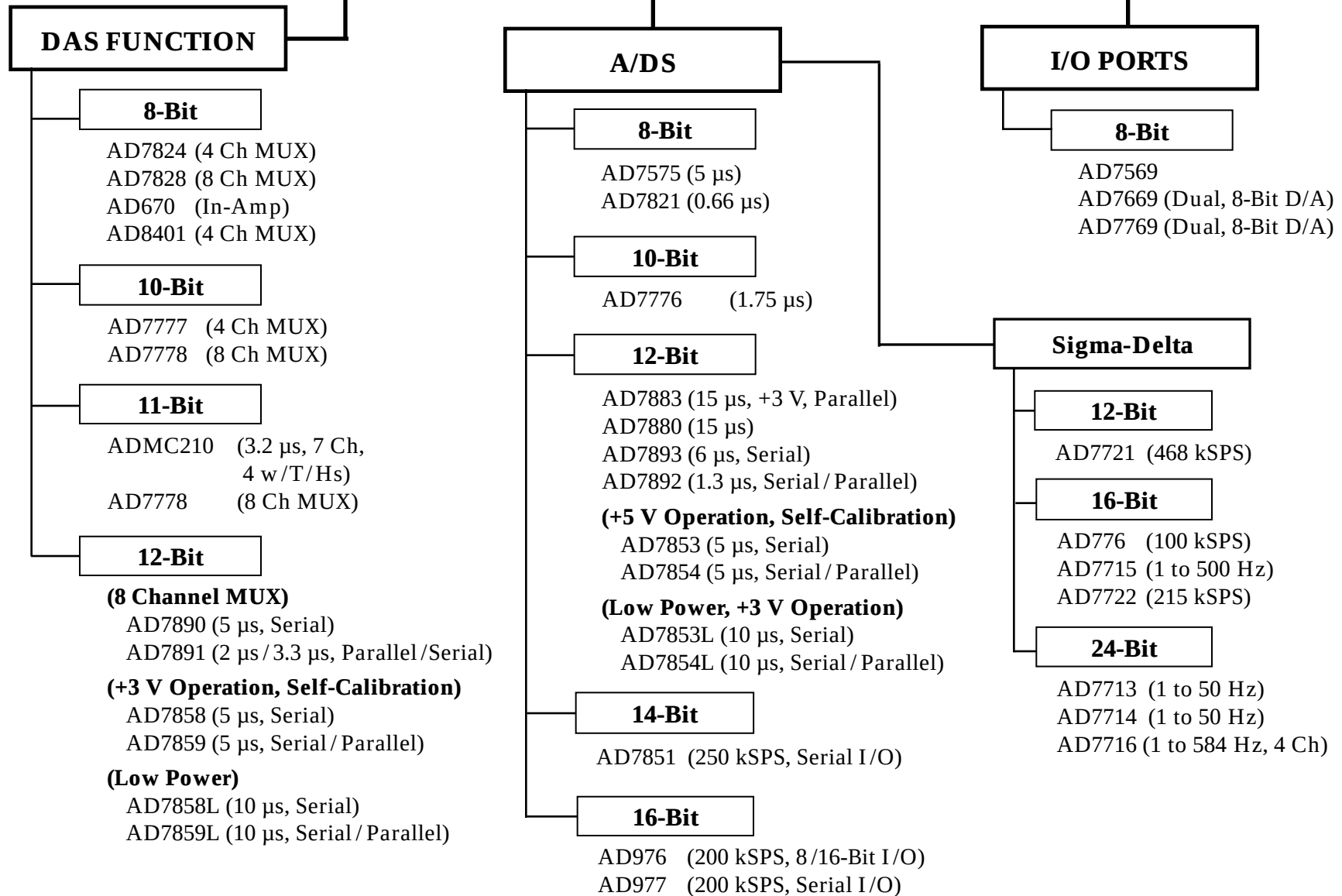


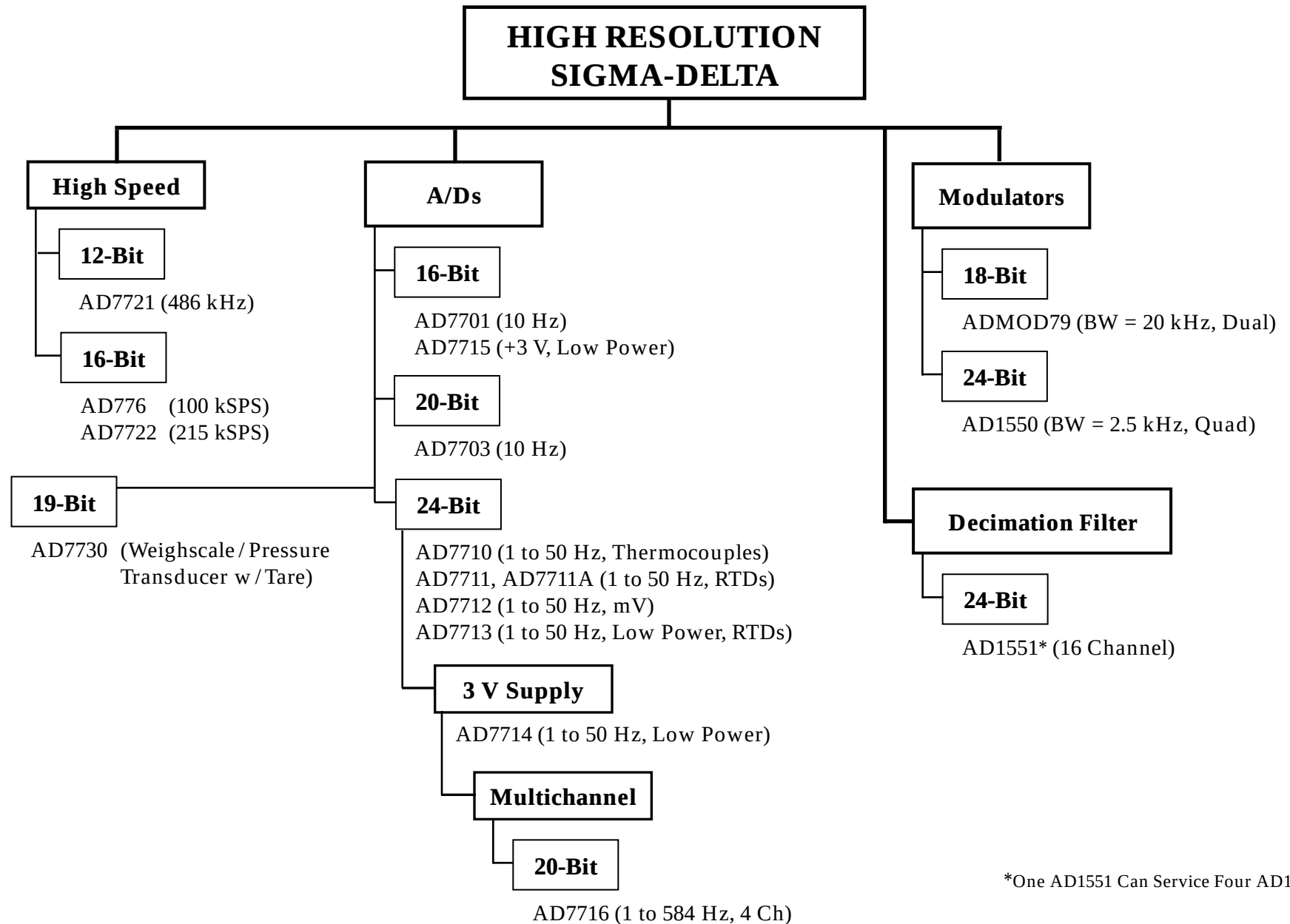
¹ Subranging or 1/2 Flash

A/D CONVERTERS FASTEST (> 20 MSPS)

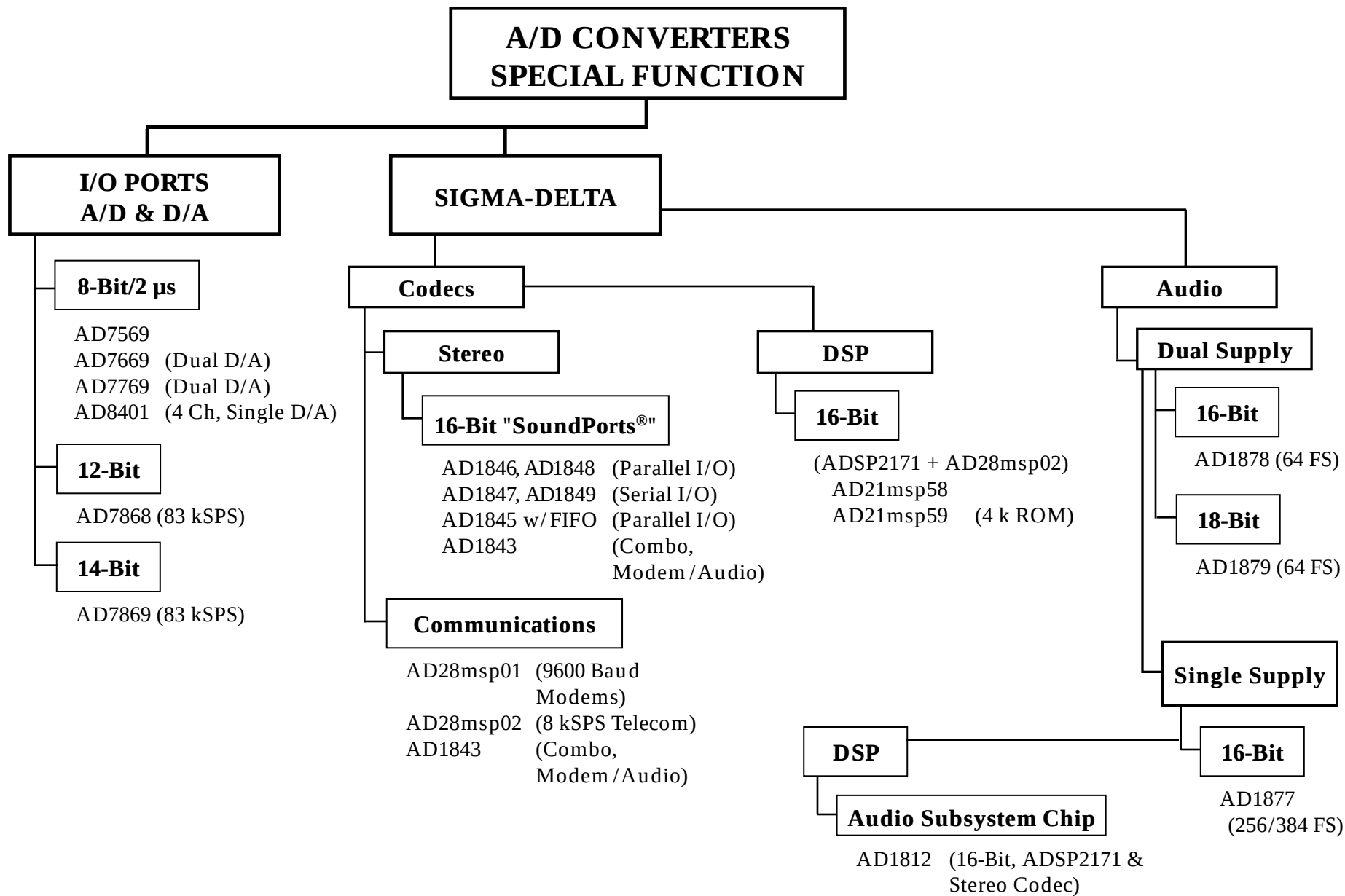


A/D CONVERTERS SINGLE SUPPLY





*One AD1551 Can Service Four AD1550s



A/D OTHER

COMPARATORS

DUAL SUPPLY

Open Collector

Single

Dual

(45 ns, Prop Delay, ± 13 V CMV)
AD790

Diff Output

Single

Dual

(3.5 ns, ECL)
AD96685

AD96687

(4.5 ns, TTL)
AD9696

AD9698

SINGLE SUPPLY

Open Collector

Single

Quad

(45 ns, Prop Delay, ± 13 V CMV)
AD790

(300 ns)
CMP04

Diff Input

Single

Dual

Quad

+3 V Supply
(Digital Only)

(4.5 ns)
AD9696

AD9698

(23 ns)
CMP401

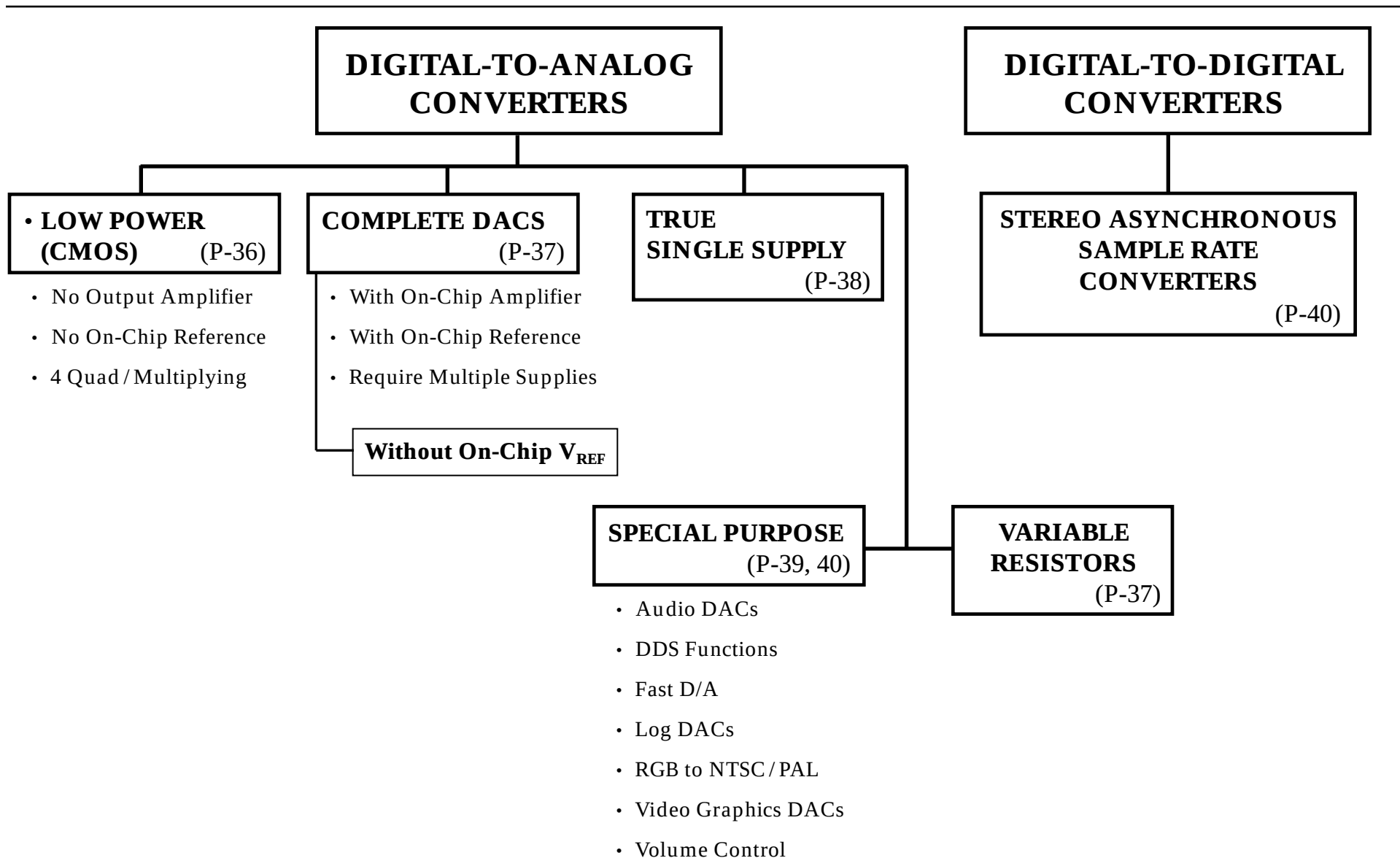
(65 ns, Low Power)
CMP402

V/F

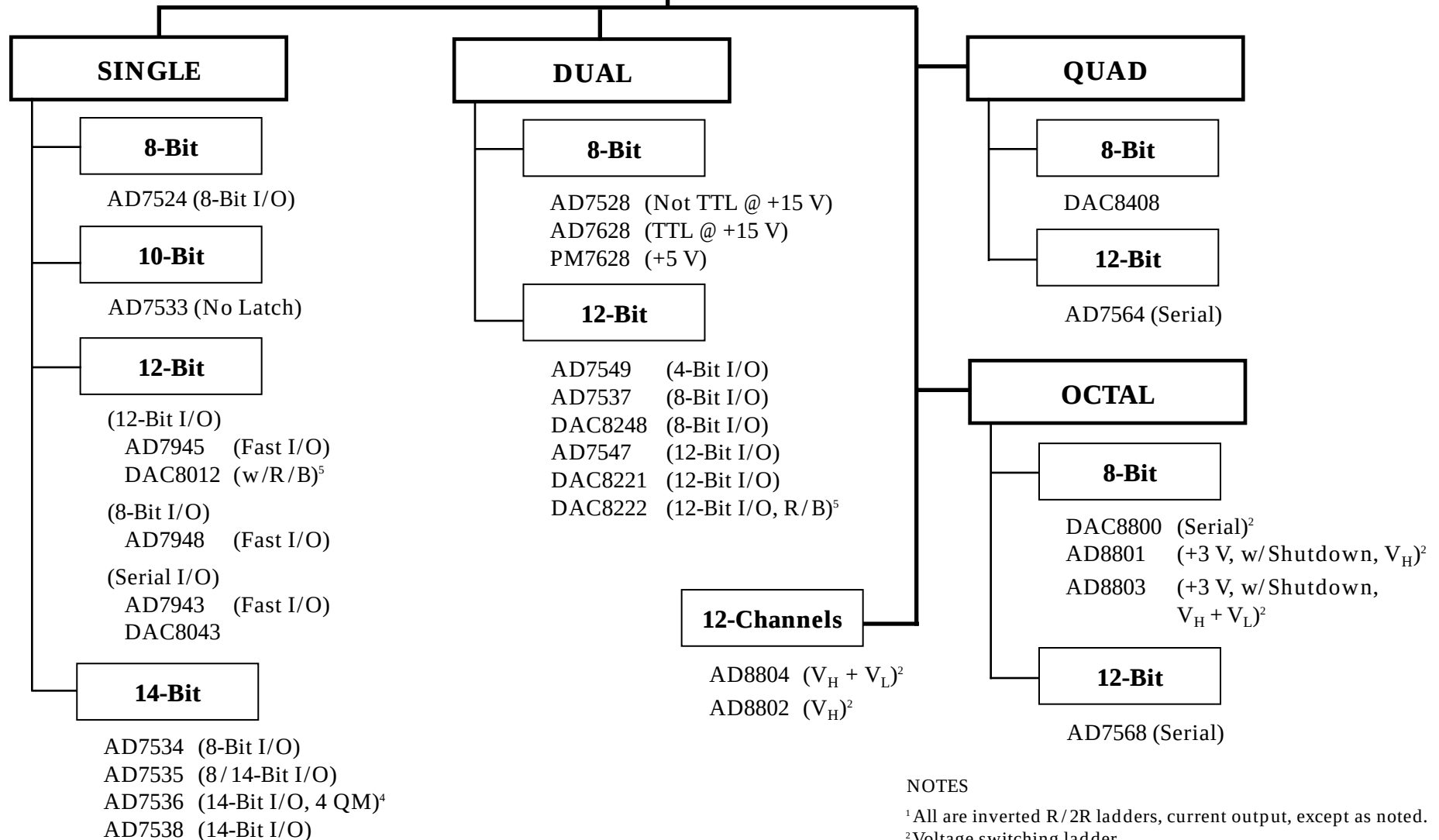
AD537 (50 kHz)
AD654 (500 kHz)
ADVFC32 (500 kHz)
AD650 (1 MHz)

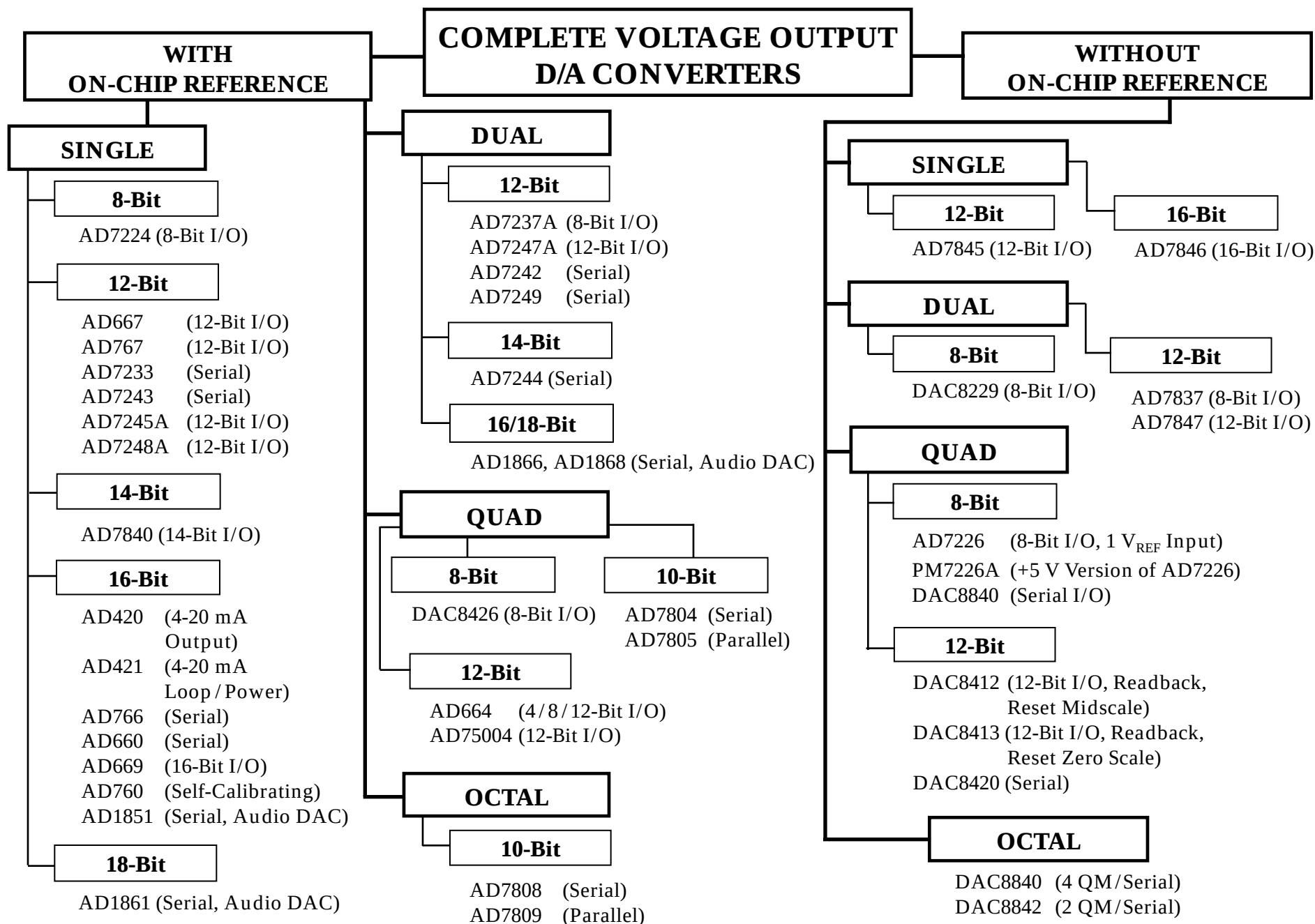
Synchronous

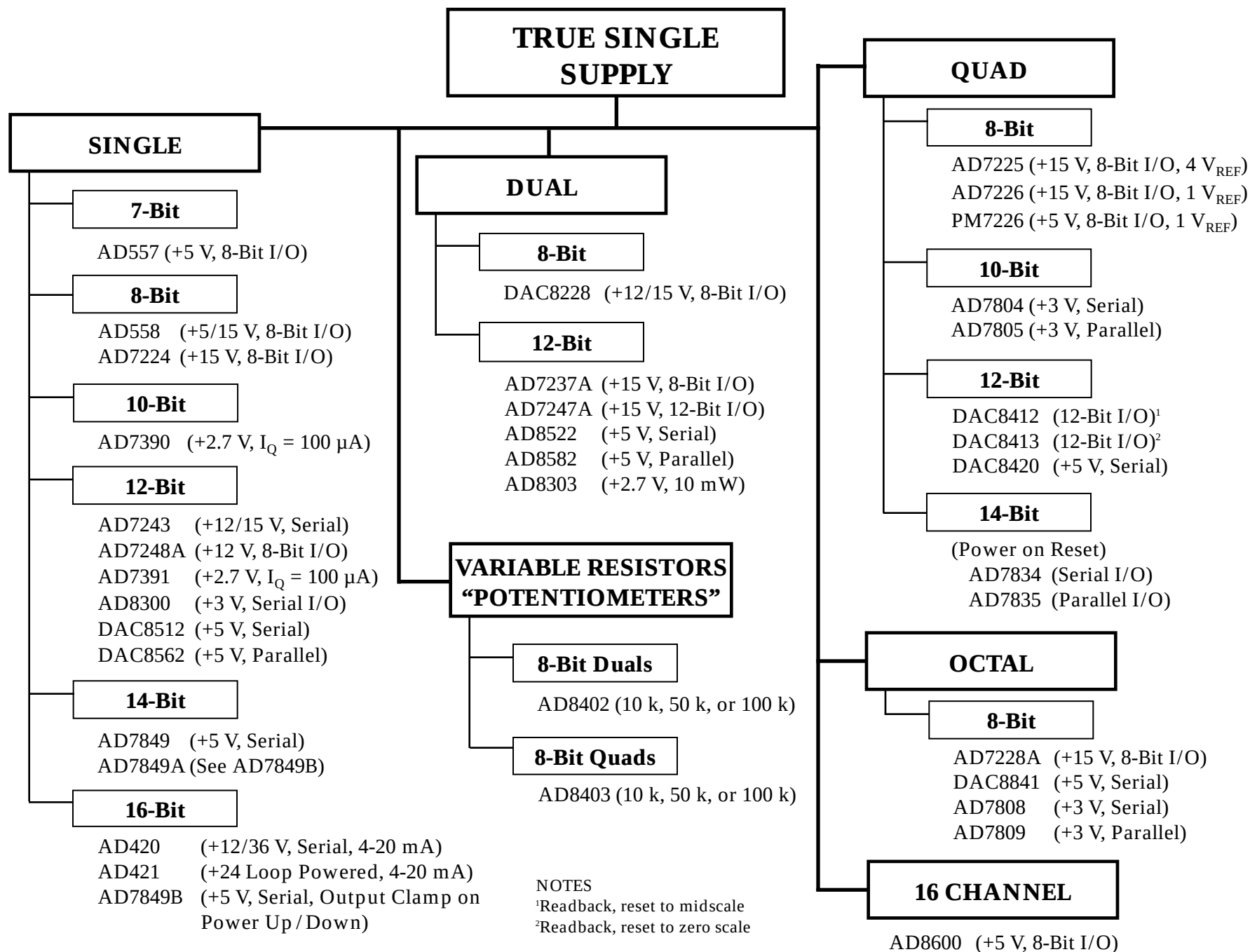
AD652 (2 MHz)

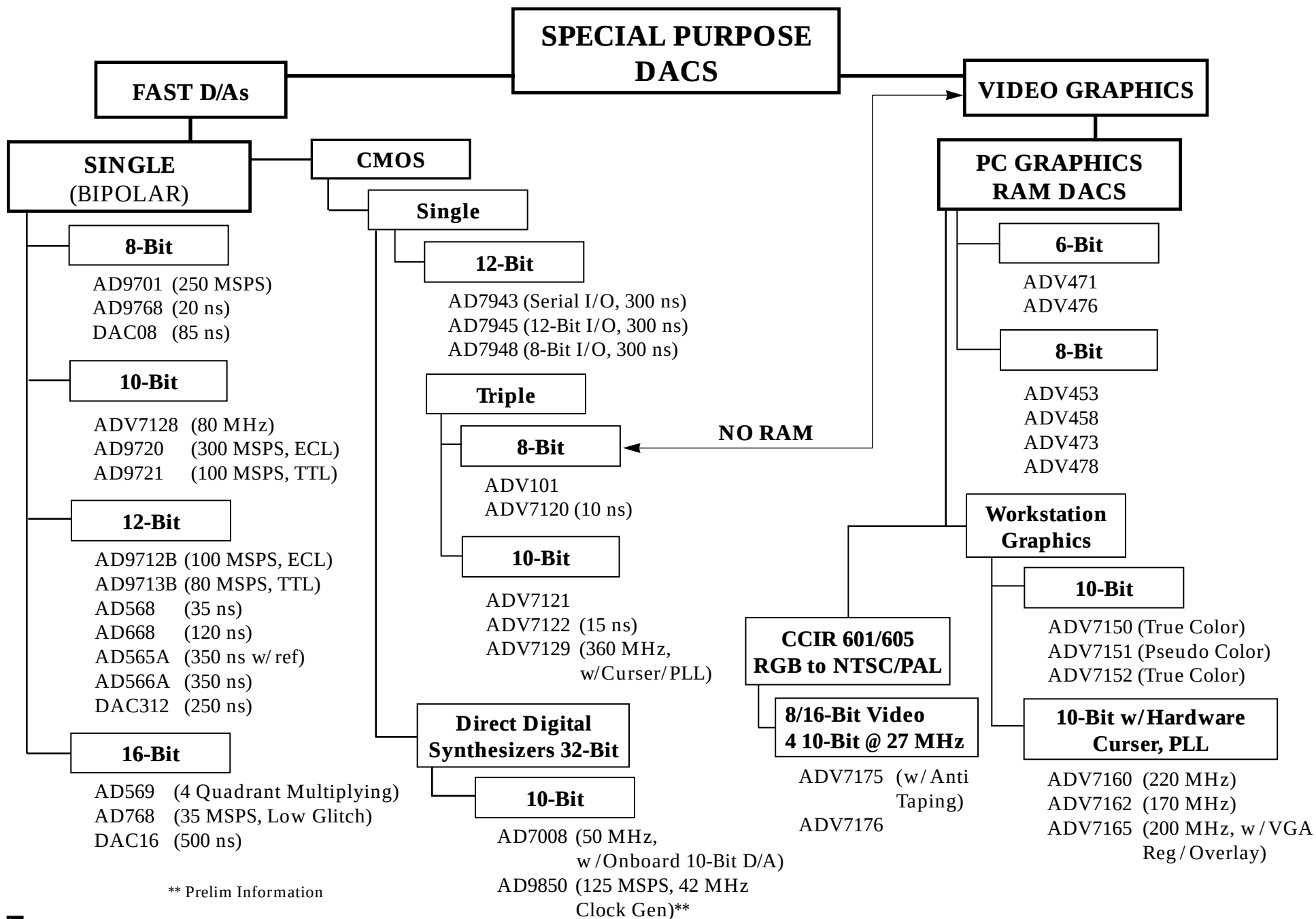


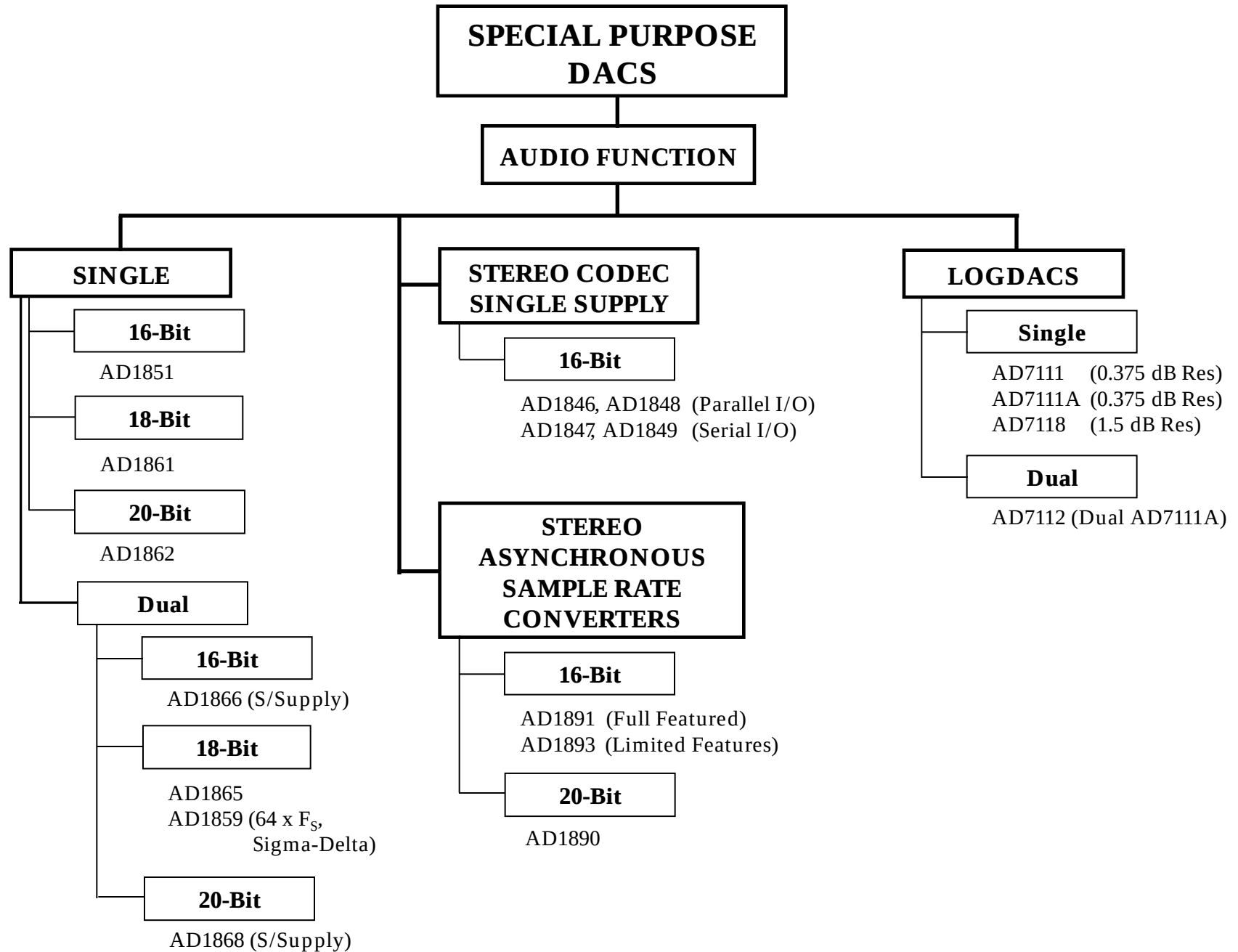
D/A CONVERTERS LOW POWER¹

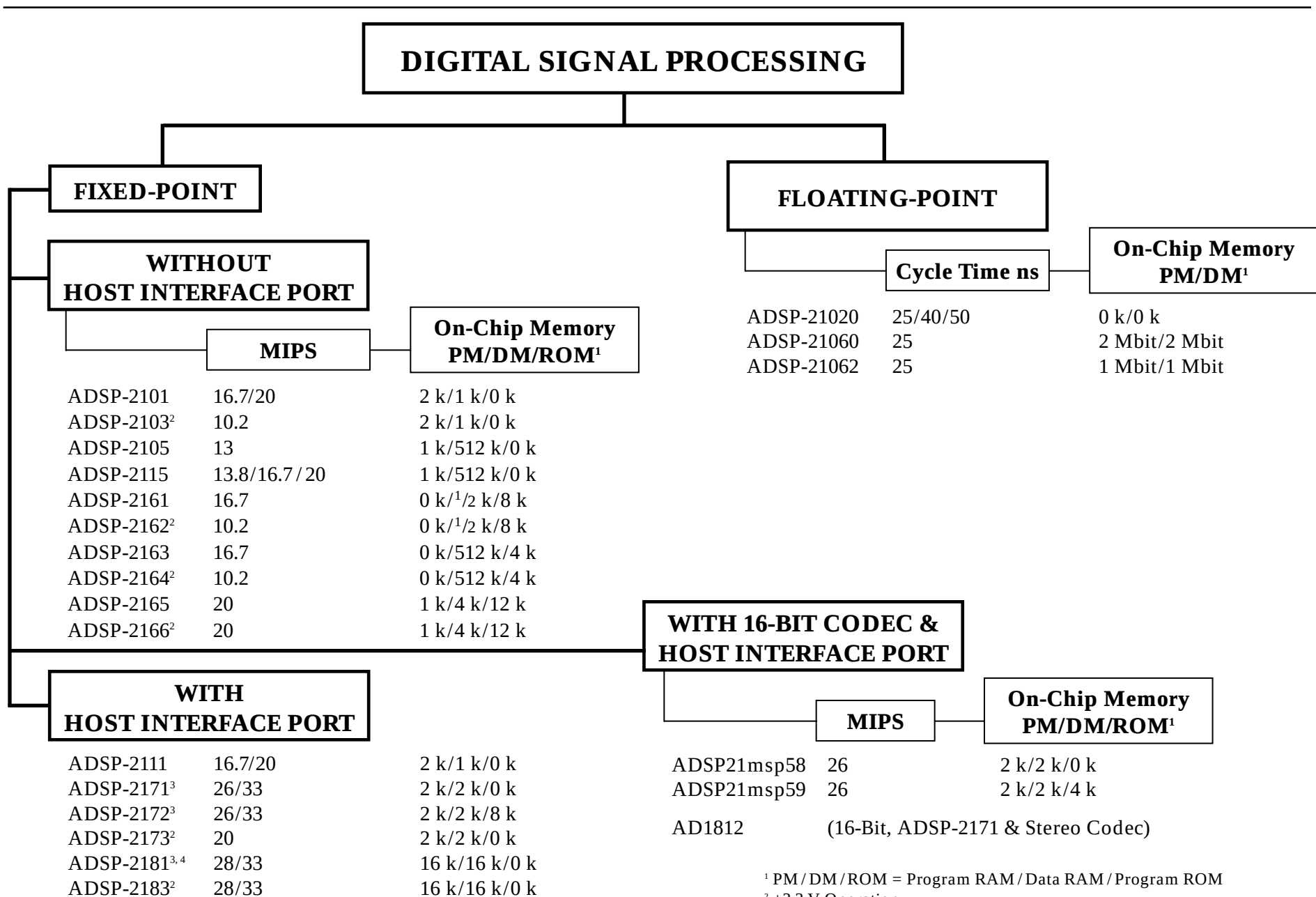












¹ PM/DM/ROM = Program RAM/Data RAM/Program ROM

² +3.3 V Operation

³ Multiple Power Down Modes

⁴ DMA Port

DSP DEVELOPMENT TOOLS

