## Gate Arrays

*Semi-finished digital chips provide high performance for medium volume production with quick development*

- 1-micron triple or double metal and 1.25-micron double metal CMOS processes.
- Basic Logic, interface, MSI, and 7400 functions.
- Compatible with Gould AMI's megacell library.
- Custom RAMs available in both 1-micron and 1.25-micron processes.
- Artificial Intelligence Software Services available for netlist translation, gate reduction, clock-tree insertion, netlist analysis, and NETSCAN technology.

Gate arrays provide solutions for a variety of high performance digital applications--at a low development cost and quick design time. If you need fast turn production runs, gate arrays may be the right ASIC for you.

Gate arrays are semi-finished digital circuits that contain patterns of uncommitted transistors pre-fabricated on silicon base wafers. Using any major CAE workstation at your own facility, you can use Gould AMI libraries to customize your design as a network of logic functions. NETRANS is also available for conversion of any ASIC supplier's netlist to Gould AMI's bolt netlist format. With only the metal layers to fabricate, gate array development time is fast—typically four weeks.

Gould AMI's arrays are fabricated in a double (or triple) metal, single poly, twin-tub CMOS process. They offer the CMOS advantages of low power dissipation, broad power supply voltage range (2.5 to 5.5 Volts), and high noise immunity.

Over 600 macros in the process families include:

Basic functions: Sequential and combinational logic.

Interface functions: TTL and CMOS level inputs, TTL and CMOS Schmitt trigger inputs, pull-ups and pull-downs, TTL and CMOS output drivers, and output drivers with a controlled slew rate for lower noise operation.

MSI functions: Counters, multiplexers, decoders, adders.

7400 functions: Over 160 TTL compatible functions.

Digital megacells: Megacells and compilers include 82xx, 29xx, core processors, RAM, FIFOs, DSP megacells, and many more.

**1-micron Gate Arrays**

| Array | Useable Gates | | Programmable Pads | | Power Pins |
|---|---|---|---|---|---|
| | Triple-metal | Double-metal | TAB | Wire-bond | |
| GD200K | 150,000 | 100,000 | 492 | 360 | 12 |
| GD100K | 75,000 | 50,000 | 348 | 252 | 12 |
| GD 70K | 49,000 | 35,000 | 288 | 208 | 12 |
| GD 50K | 35,000 | 25,000 | 256 | 184 | 12 |
| GD 35K | 24,500 | 17,500 | 208 | 152 | 12 |
| GD 25K | 17,500 | 12,500 | 180 | 128 | 12 |
| GD 20K | 14,000 | 10,000 | 156 | 112 | 12 |
| GD 16K | 11,200 | 8,000 | 140 | 100 | 12 |
| GD 12K | 8,400 | 6,000 | 120 | 84 | 12 |
| GD 9K | 6,300 | 4,500 | 100 | 72 | 12 |
| GD 7K | 4,900 | 3,500 | 92 | 64 | 12 |
| GD 5K | 3,500 | 2,500 | 76 | 52 | 12 |
| GD 3K | 2,100 | 1,500 | 56 | 40 | 12 |