

**QUAD TRIDIRECTIONAL
BUS TRANSCEIVERS**

- 440** (OPEN-COLLECTOR OUTPUTS, NONINVERTED LOGIC)
- 441** (OPEN-COLLECTOR OUTPUTS, INVERTED LOGIC)
- 442** (THREE-STATE OUTPUTS, NONINVERTED LOGIC)
- 443** (THREE-STATE OUTPUTS, INVERTED LOGIC)
- 444** (THREE-STATE OUTPUTS, INVERTED AND NONINVERTED LOGIC)

ALSO SEE 'LS448

pin assignments

J, N PACKAGES				FH, FN PACKAGES			
1	\overline{CS}	11	S0	1	\overline{CS}	11	S0
2	B1	12	S1	2	B1	12	S1
3	C1	13	A4	3	C1	13	A4
4	C2	14	A3	4	C2	14	A3
5	B2	15	A2	5	B2	15	A2
6	B3	16	A1	6	B3	16	A1
7	C3	17	\overline{GA}	7	C3	17	\overline{GA}
8	C4	18	\overline{GB}	8	C4	18	\overline{GB}
9	B4	19	\overline{GC}	9	B4	19	\overline{GC}
10	GND	20	V _{CC}	10	GND	20	V _{CC}

typical performance

TYPE	DELAY	MAX SOURCE CURRENT	MAX SINK CURRENT
SN54LS440	22 ns	—	12 mA
SN74LS440	22 ns	—	24 mA
SN54LS441	15 ns	—	12 mA
SN74LS441	15 ns	—	24 mA
SN54LS442	11.5 ns	-12 mA	12 mA
SN74LS442	11.5 ns	-15 mA	24 mA
SN54LS443	8 ns	-12 mA	12 mA
SN74LS443	8 ns	-15 mA	24 mA
SN54LS444	9 ns	-12 mA	12 mA
SN74LS444	9 ns	-15 mA	24 mA

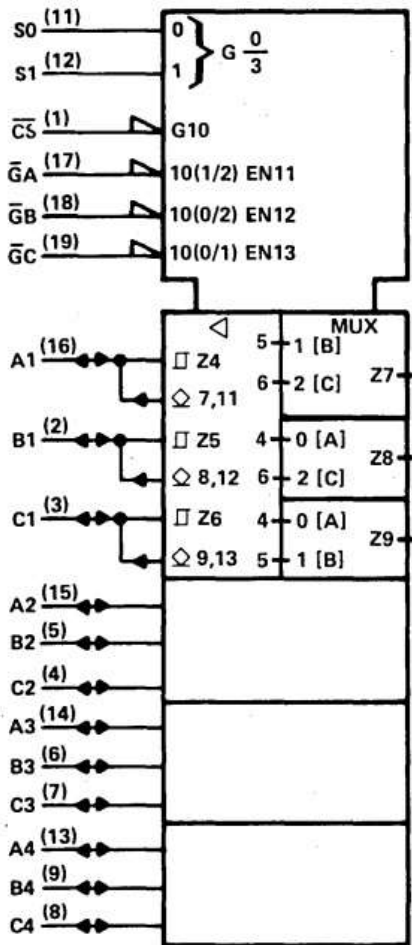
SN54LS440 (J, FH)
 SN54LS441 (J, FH)
 SN54LS442 (J, FH)
 SN54LS443 (J, FH)
 SN54LS444 (J, FH)

SN74LS440 (J, FN)
 SN74LS441 (J, FN)
 SN74LS442 (J, FN)
 SN74LS443 (J, FN)
 SN74LS444 (J, FN)

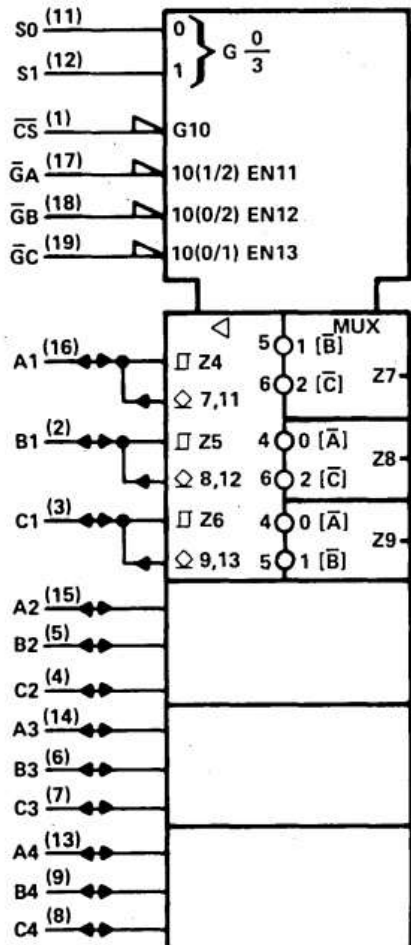
440, 441, 442, 443, 444 (continued)

logic symbol

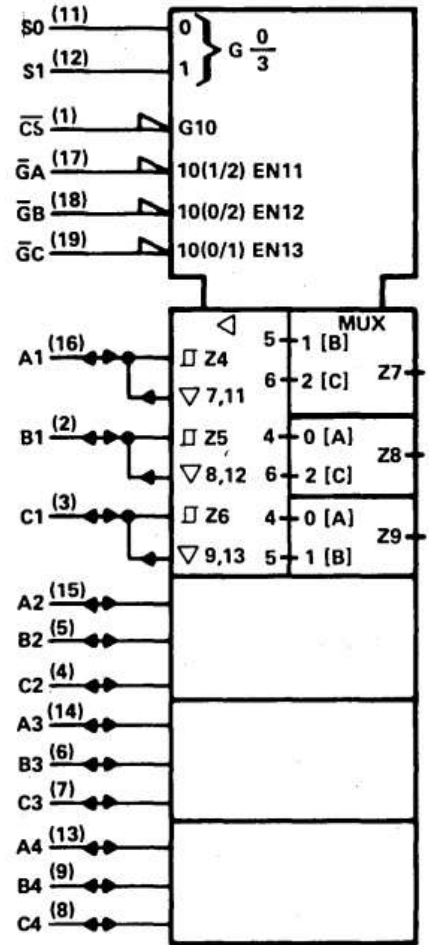
'LS440†



'LS441†

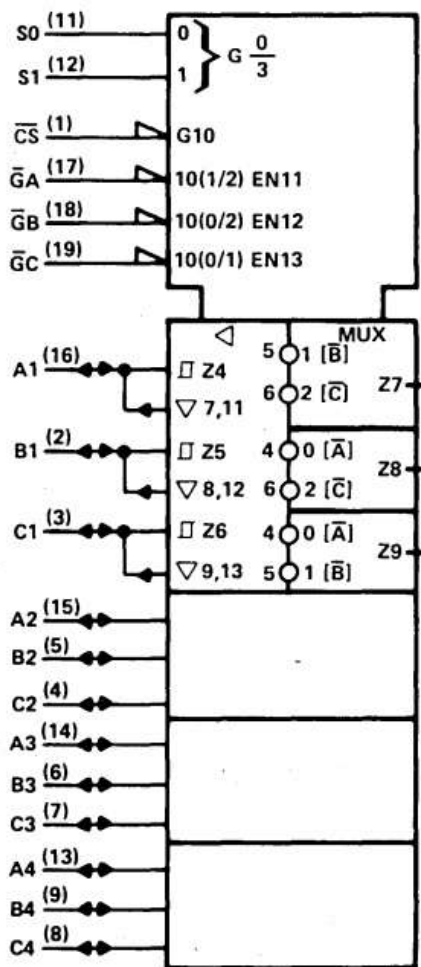


'LS442†



440, 441, 442, 443, 444 (continued)

'LS443†



'LS444†

