Engineering News

ALTEC LANSING
ALTEC DIVISION OF [illegible]LING ALTEC, INC.
1515 S. Manchester Avenue, Anaheim, California

TECHNICAL LETTER NO. 175A

REPLACEMENT TRANSISTOR LIST

The following list of transistors has been prepared to assist the ALTEC Contractor when an immediate replacement is required. Satisfactory substitutes are indicated, which, in most cases, may be purchased locally.

ORDERING NO.	ALTEC NO.	MTRL.	POLARITY	MFR.	ALTEC SPEC.	SATISFACTORY SUBSTITUTE*
48-03-040461-03, 48-03-050137-02, 48-03-101101-01 or 48-03-101110-02	AL50137	Silicon	NPN	RCA	See Note 1	2N3053**
48-03-041440-01	AL41440	Silicon	PNP	MOTOROLA	See Note 2	2N3906
48-03-041344-01	AL41344	Silicon	NPN	MOTOROLA	See Note 3	2N4923
48-03-041342-01	AL41342	Silicon	PNP	MOTOROLA	See Note 4	2N4920
48-03-040934-03	AL40934	Silicon	NPN	RCA	See Note 5	2N3055
48-03-041480-02	41840	Silicon	NPN	RCA	See Note 5	2N3055
48-03-040461-01	AL40461	Silicon	NPN	RCA	See Note 6	2N3053*** or RCA40360
48-03-101098-01	AL2712	Silicon	NPN	G.E.	See Note 7	See Note 7
48-03-101090-01	B1272	Germanium	PNP	BENDIX	2N2288	2N2288 or TI3030
48-03-101094-01	S1829	Silicon	PNP	FAIRCHILD	See Note 8	2N3638
48-03-041627-01	AL41627	Silicon	NPN	G.E.	See Note 9	2N5306
48-03-041480-02	AL41480	Silicon	NPN	RCA	See Note 10	2N3055
48-03-041480-02	SYL2834	Silicon	NPN	SYLVANIA	See Note 10	2N3055
48-03-107447-02	39390	Silicon	NPN	RCA	See Note 11	2N5320
48-03-107447-02	107447	Silicon	NPN	RCA	See Note 11 and Spec. 107447	2N5320
48-03-107448-02	39391	Silicon	PNP	RCA	See Note 12	2N5322
48-03-107448-02	107448	Silicon	PNP	RCA	See Note 12 and Spec. 107448	2N5322
48-03-101095-01	40724	Germanium	PNP	TEXAS INSTR.	See Note 13	2N2552 or 2N1038
48-03-108557-02	AL5367	Silicon	PNP	G.E.	Spec. 108557	2N5367
48-03-110773-01	110773	Silicon	PNP	G.E.	See Note 14	D29E4***
48-03-110395-02	110395	Silicon	NPN	G.E.	See Note 15	D40D***
48-03-110396-02	110396	Silicon	PNP	G.E.	See Note 16	D41D***
48-03-109715-01	109715	Silicon	NPN	MOTOROLA	See Note 17	MJE3055***
48-03-106107-01	40242	Silicon	NPN	RCA	None	RCA 40242
48-03-106886-01	40243	Silicon	NPN	RCA	None	RCA 40243
48-03-106887-01	40244	Silicon	NPN	RCA	None	RCA 40244
48-03-106888-01	40245	Silicon	NPN	RCA	None	RCA 40245
48-03-106889-01	40246	Silicon	NPN	RCA	None	RCA 40246
48-03-101111-02	36811	Silicon	PNP	RCA	2N4036	2N4036

*Satisfactory performance may be expected from these devices; however, specification compliance may not be realized.
**Recommend ordering AL50137 replacement specifying color code same as on item being replaced.
***Caution should be used to make sure device parameters are not exceeded — i.e.; breakdown voltages, etc. Substitute type is only family origin from which ALTEC part is selected.

NOTE

Some transistors may be marked with 5 or 6 digit number shown in 3rd column of ordering number.

Litho in USA CP-1271-2K

ORDERING NO.	ALTEC NO.	MTRL.	POLARITY	MFR.	ALTEC SPEC.	SATISFACTORY SUBSTITUTE*
48-03-101109-02	35554	Germanium	PNP	RCA	2N2147	2N2147
48-03-040461-03, 48-03-050137-02, 48-03-101101-01 or						
48-03-101110-02	35934	Silicon	NPN	RCA	Spec. AL50137-3	2N3053**
48-03-051801-02	51801	Silicon	NPN	SPRAGUE	Spec. AL51801	2N3391A
48-03-108557-02	108557	Silicon	PNP	G.E.	Spec. AL5367	2N5367
48-03-112928-01	112928	Silicon	PNP	G.E.	See Note 18	2N5305 or 2N5306
48-03-101109-02	34235	Germanium	PNP	RCA	None	2N2147

Note 1. Selected from 2N3053 family for Beta greater than 125 at 50 mA I_c. When used in pairs, must have Betas within 10 percent of each other.

Note 2. Selected from 2N3906 family for dc current gain 100 minimum, 200 maximum at 10 mA I_c.

Note 3. Selected from Motorola MJE521 family for V_{ceo} 65V dc minimum and dc current gain 50 minimum at 150 mA I_c.

Note 4. Selected from Motorola MJE371 family for V_{ceo} 65V dc minimum and dc current gain 50 minimum at 150 mA I_c.

Note 5. Selected from 2N3055 family for V_{cev} 90V minimum with 1.5V reverse bias and I_{ceo} 1 mA maximum at V_{ce} = 50V dc.

Note 6. Selected from 2N3053 family for BV_{ceo} 60V minimum at 100 mA I_c.

Note 7. Selected from 2N2712 family and color coded for three Beta groups with 25V dc minimum V_{ceo}.

Color Code	H_{fe} Range (at 2 mA I_c)	Satisfactory Substitute
Blue	75-125	G.E. 2N3394
White	125-175	G.E. 2N3393
Red	175-225	G.E. 2N3392

Note 8. Selected from 2N3638 family for dc current gain 50 minimum, 100 maximum at 10 mA I_c.

Note 9. Selected from 2N5306 family for Noise Figure not to exceed 6 dB with R_G 75,000 ohms over band width from 7 Hz to 22 kHz.

Note 10. Selected from 2N5320 family for V_{cer} (sus) 100V minimum with R_{BE} 100 ohms and 200 mA I_c.

Note 11. Selected from 2N5320 family for V_{cer} 90V minimum with R_{BE} 100 ohms and I_{cbo} at 80V 1 mA maximum.

Note 12. Selected from 2N5322 family for V_{cer} 90V minimum with R_{BE} 100 ohms and I_{cbo} at 80V 1 mA maximum.

Note 13. 2N2552 or 2N1038 mounted in heatsink. H_{fe} 40 or greater and matched in pairs.

Note 14. Selected from D29E4 family for V_{ceo} 50V minimum at 10 mA I_c.

Note 15. Selected from D40D family for V_{ceo} 75V minimum at 10 mA I_c and V_{ces} 90V.

Note 16. Selected from D41D family for V_{ceo} -75V minimum at 10 mA I_c and V_{ces} -90V.

Note 17. Selected from Motorola MJE3055 family for BV_{cer} 100V minimum with R_{BE} 100 ohms.

Note 18. 2N5305 or 2N5306 must have heatsink attached and mounted in same area as unit being replaced.

**Recommend ordering AL50137 replacement specifying color code same as on item being replaced.