

Technical Information

To : ICOM Distributors
From : ICOM Inc. / Export Department
Ref No. : SEN-015-03
Date : December 17, 2003

Service handling necessary: [] Yes [X] No

Re. Improvement of the PA Driver for the IC-746PRO/ 7400 series.

Thank you very much for your continuous strong promotion for our products in your market.

The following is the information for the improvement of the PA driver for the IC-746PRO/ 7400 series.

Model:

All versions of the IC-746PRO/ 7400 series.

Symptom:

No RF power output.

Cause:

The driver transistor on the PA stage will be damaged when the transceiver is used in a high temperature environment and transmits continuously.

Procedure of this improvement:

For solution of this problem, we have reduced the current drain of the circuitry on the PA stage.

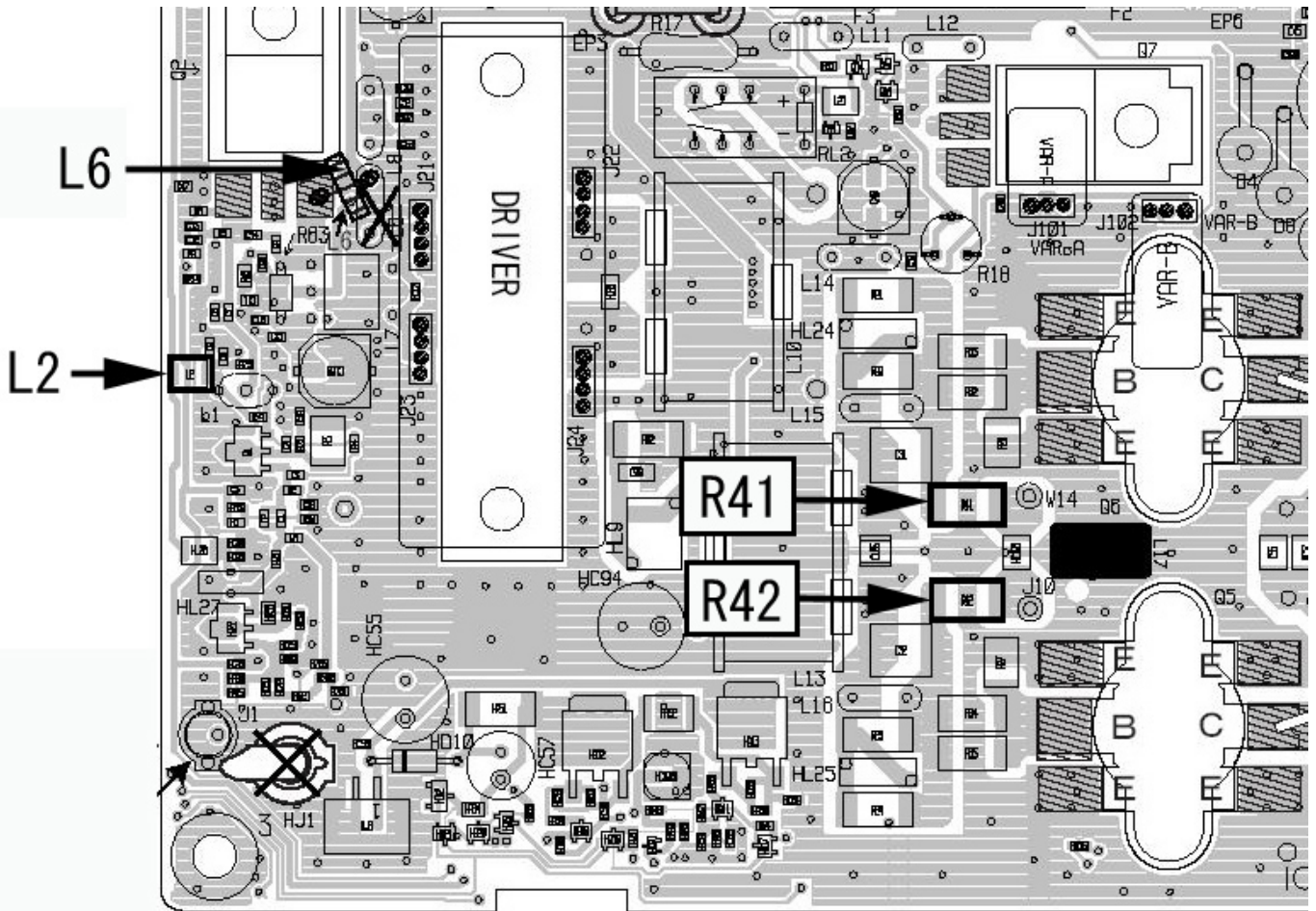
The following is the procedures for this improvement.

- (1) Replace the parts as shown in the parts list and parts location.
- (2) Replace the MP34 screws which is fixed to the DRV board.
- (3) Adjust PA idling current to 1.5A from 2.5A.

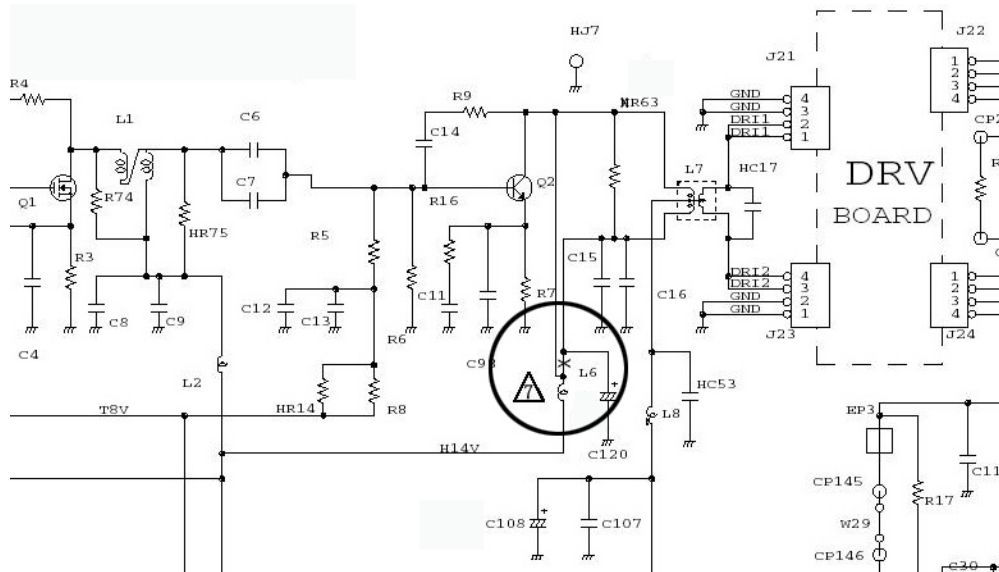
Replace following parts.

Board	Parts Number	Parts Number (Old)	QTY	Parts Number(New)	QTY	Action Taken	Version
CHASSIS	MP34	8810003170	2	8810003370	2	Replaced	All versions
		SCREW(A) 3X8		SCREW(C) 3X8			
PA	L2	620003260	1	6200001830	1	Replaced	All versions
		NL322522T 101J 100U		NL322522T 100J 10U			
PA	L6	2040000490	1	6140002220	1	Replaced	All versions
		EXC-ELDR25C		LR-270			
PA	R41	7030010660	1		0	Removed	#01 only
		6.8 ERJ1TY		None			
PA	R41	7030010570	1		0	Removed	#02, 03, 04, 05, 08, 09 and 10 only
		4.7 ERJ1TY		None			
PA	R41		0	7030010660	1	Added	All versions
		None		6.8 ERJ1TY			
PA	R42	7030010660	1		0	Removed	#01 only
		6.8 ERJ1TY		None			
PA	R42	7030010570	1		0	Removed	#02, 03, 04, 05, 08, 09 and 10 only
		4.7 ERJ1TY		None			
PA	R42		0	7030010660	1	Added	All versions
		None		6.8 ERJ1TY			
CTRL	D25		0	1750000810	1	Added	All versions
		None		UM9957			
CTRL	D26		0	1750000810	1	Added	All versions
		None		UM9957			
CTRL	R154	7030003480	1	7030003440	1	Replaced	All versions
		2.2K ERJ3GE		1K ERJ3GE			
DRV	R11	7030000280	1		0	Removed	All versions
		150 MCR10		None			

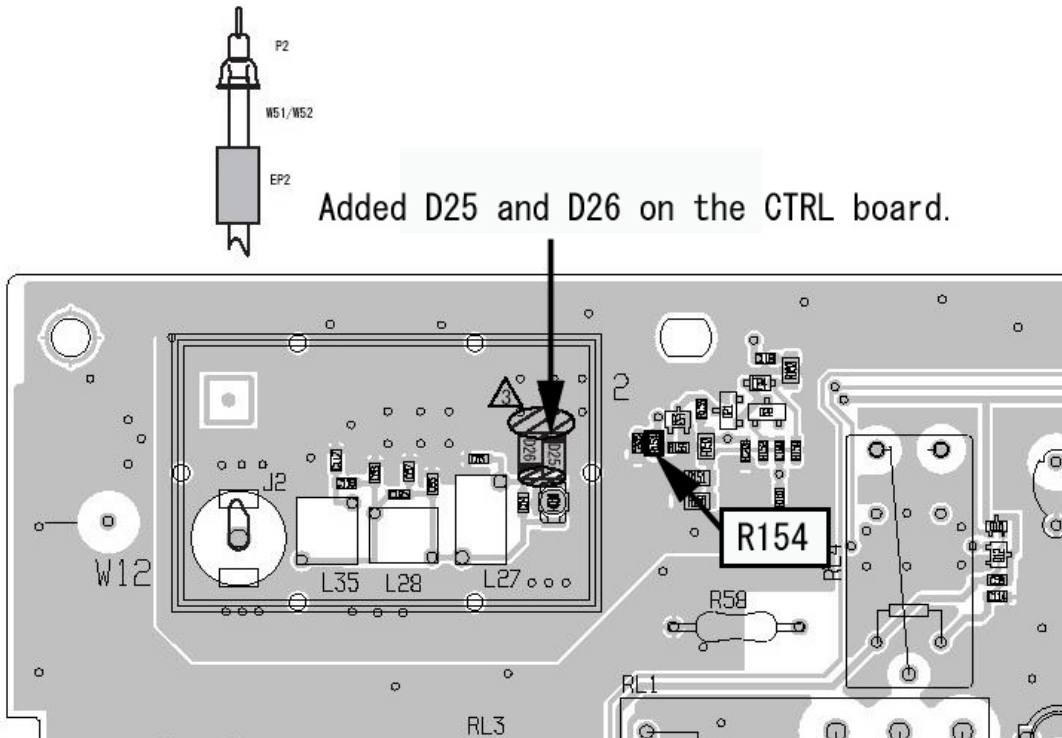
Parts Location on the PA board. (L6, L2, R41 and R42)



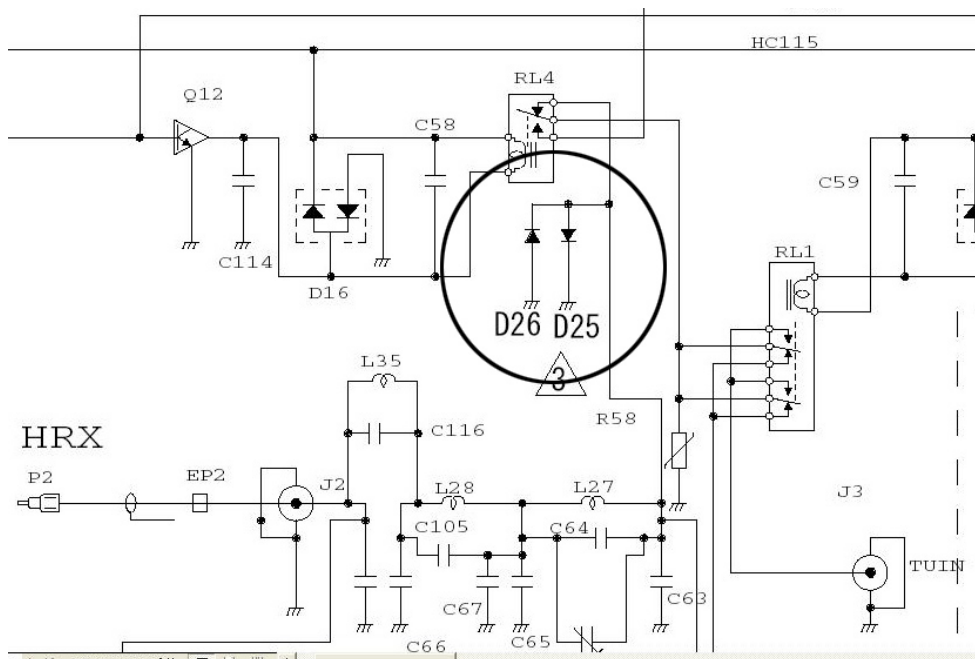
Schematic Diagram of the PA board. (L6)



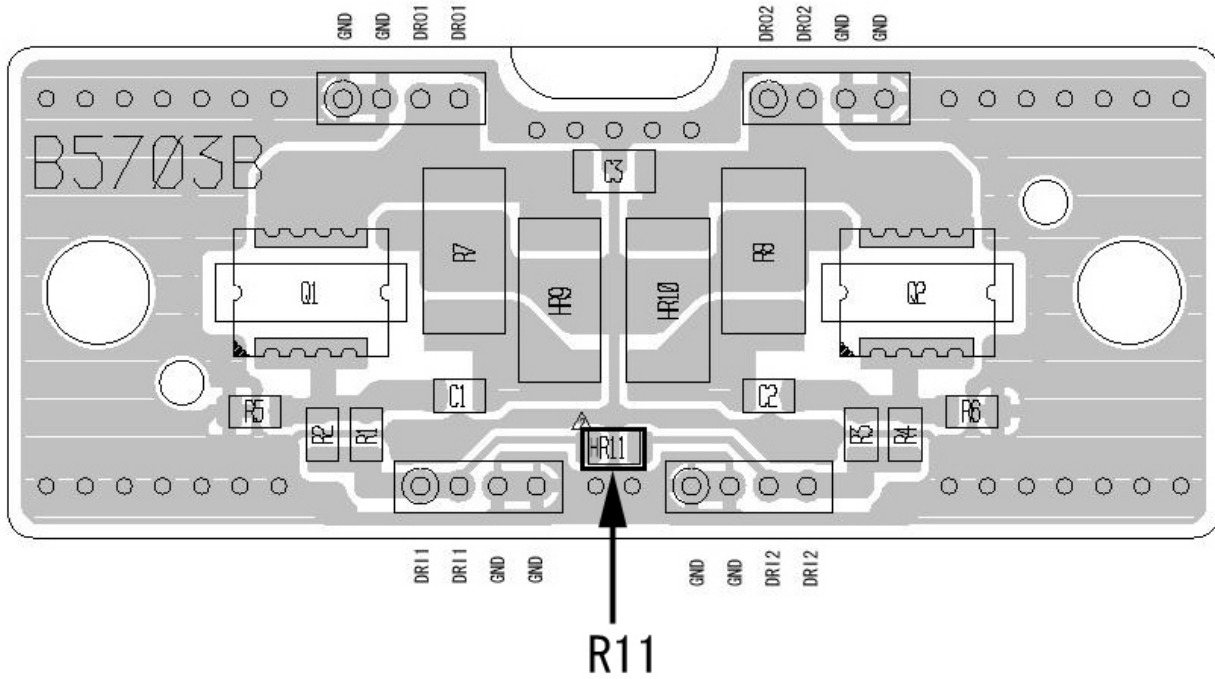
Parts Location on the CTRL board. (D25, D26 and R154)



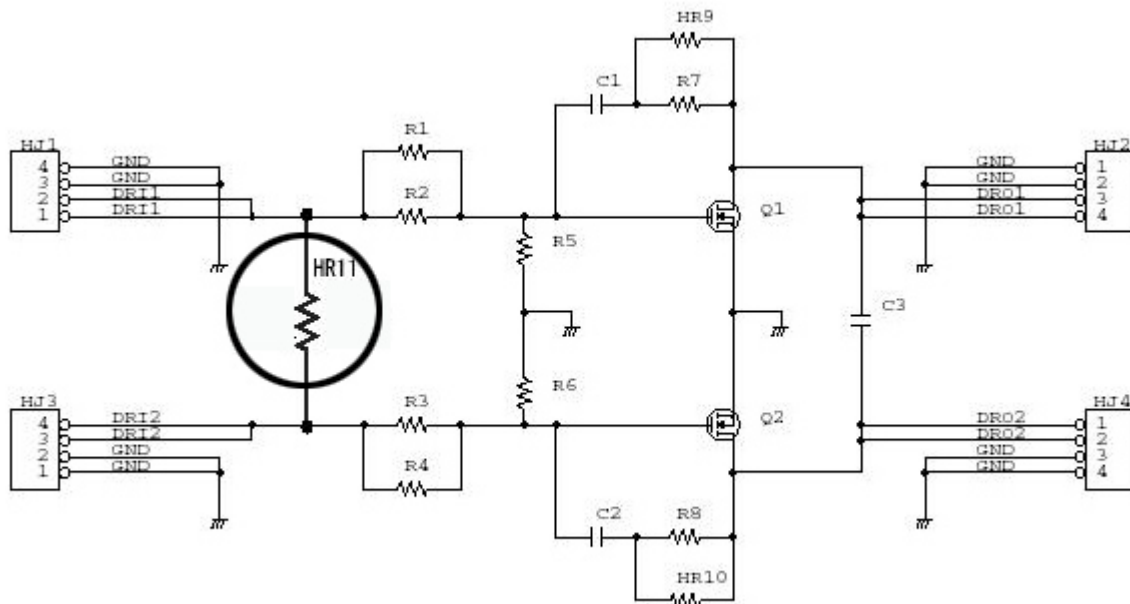
Schematic Diagram of the CTRL board. (D25 and D26)



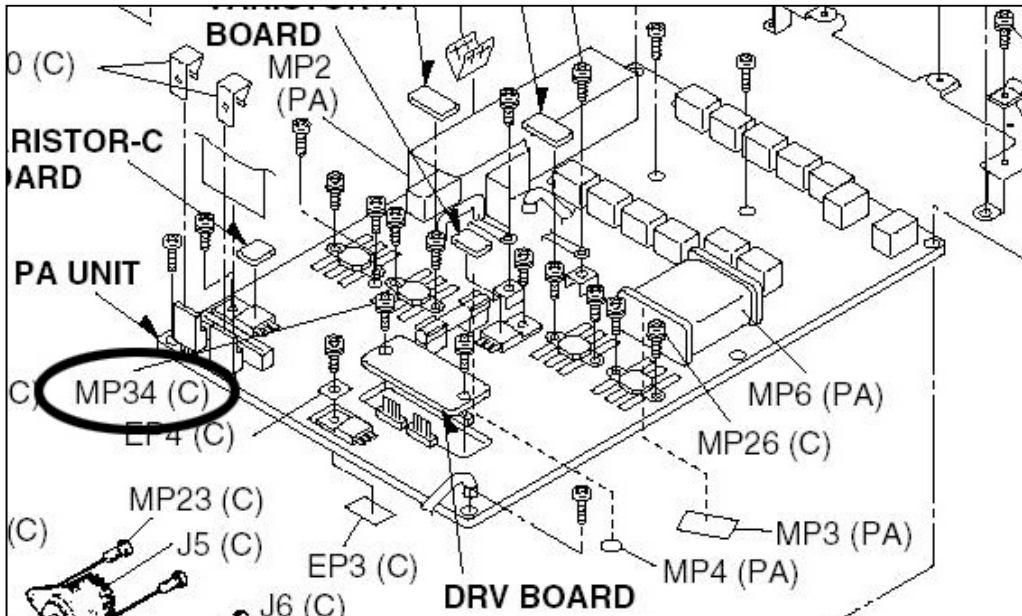
Parts Location on the DRV board. (R11)



Schematic Diagram of the DRV board. (R11)



Replace the MP34 screws on the CHASSIS board which is fixed to the DRV board.



Adjust PA Idling current to 1.5A from 2.5A.

5-3 TRANSMITTER ADJUSTMENTS

ADJUSTMENT	ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT POINT	
		UNIT	LOCATION		UNIT	ADJUST
IDLING CURRENT (for driver)	<ul style="list-style-type: none"> • Displayed freq. : 14.100000 MHz • Mode : USB • [MIC GAIN] : Max.CCW • [RF POWER] : Max. CW • [TUNER] : OFF • Preset R11, R18, R204 (PA unit) to max. counter clockwise. • Turn C202 (PA unit) to 90° clockwise. • Transmitting 	PA	Connect an ammeter between the power supply and the IC-746PRO/7400.	2.5 A	PA	R11
				1.5 A		
				+300 mA		
(for HF/50 M band final amplifier)	<ul style="list-style-type: none"> • Transmitting 			+1 A		R204
(for 144 M band final amplifier)	<ul style="list-style-type: none"> • Displayed freq. : 144.00000 MHz • Mode : USB • Transmitting 					
After adjustment, disconnect the ammeter between the power supply and the IC-746PRO/7400.						
MAXIMUM PEAK	<ul style="list-style-type: none"> • Displayed freq. : 146.00000 MHz [USA] • 144.00000 MHz [except USA] • Mode : RTTY • Transmitting 	panel	Connect an RF power meter to the [ANT 144MHz] connector.	Maximum output power	PA	C202
TV PEAK	<ul style="list-style-type: none"> • Displayed freq. : 145.00000 MHz 	PE	Connect a digital	Maximum output	PE	Adjust in



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Updated Serial Number:

This modification has not yet been applied in production units.

However, the serial number of improved units will be announced later.