

## Tune-up information

The procedure to tune up HMCPA is as follows.

## 1. Preparation

## 1.1 Interface

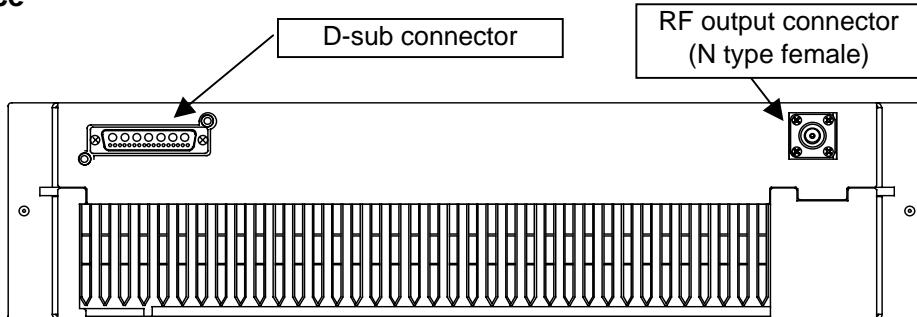
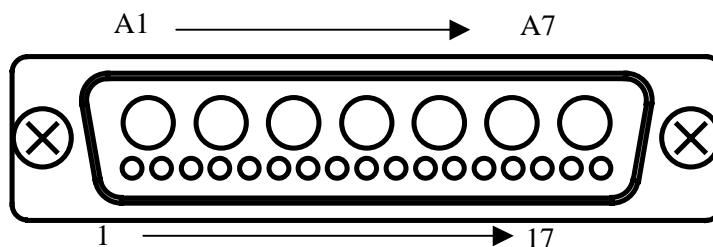


Diagram 1 : HMCPA rear view



## Complex D-sub connector (Plug) (D247PSA1:PHOENIX Inc. suitable) Diagram 2 : D-sub connector

Figure 1 D-sub connector interface specification

Pin number	Item	Type (suitable)	Remark
A1 to A3	+28V	PDM15-0020-0001	DC power (+) side
A4 to A6	+28V RETURN	PDM15-0020-0001	DC power RETURN side
A7	RF INPUT	PkZ26-0020-1201/1410	RF input signal
1 to 17	SIGNAL		No connection

## 1.2 Power supply for HMCPA

Power source is to be supplied to the D-sub connector on the left side of HMCPA rear (Please refer to Diagram 1). Connect the power line using the suitable D-sub contact for fitting to the above interface.

Note)

- (a) Please use thick PS cable (AWG8 to 10) for connecting with this terminal. Approximately 40A (28V) of electric current in total per one HMCPA will flow.
- (b) Please make sure of +/- polarity when you connect PS cable. (Misconnection causes a damage on HMCPA.)
- (c) Before connecting PS cable, please make sure NFB switch at the front of HMCPA is OFF.
- (d) Since MCPA cover itself is power source RTN (-), please don't put any electrical conductor on it.

### 1.3 Connection of Input/Output RF connectors

RF input portion is inside of D-sub connector. As you can see in Diagram 2 and Figure 1, since RF input cable is connected at the right side of D-sub connector (A Utilize the contact for fitting the above D-sub connector.

As to the RF output, it will be made at the RF output connector (N type female) at the right side of HMCPA rear as shown in Diagram 1.

The average output power of this single HMCPA is 120 watts.

The measurement equipment system for 120 watts testing is connected to the output terminal.

Note)

(a) Since RF output is 120W, please use the RF output cable for high power.

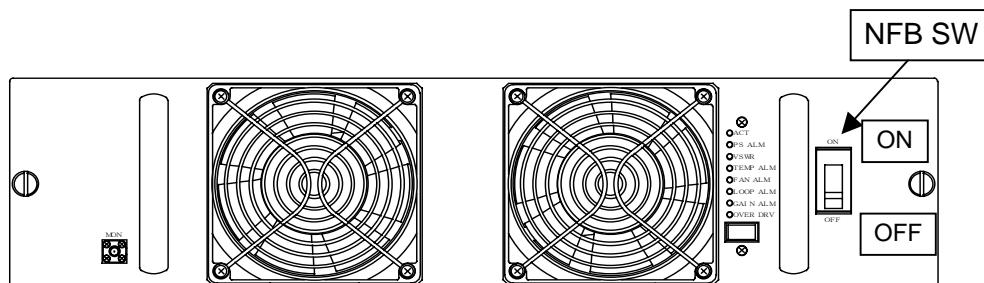


Diagram 3 : HMCPA front view

## 2. HMCPA activation

- (1) Make sure of proper connection to each D-sub connector and RF output connector.
- (2) After confirming NFB switch at the front of HMCPA is OFF, supply 28V to PS terminal.
- (3) After confirming RF input level has not yet supplied to RF input connector, turn NFB switch ON.
- (4) After few seconds from PS ON, "ACT" LED (green) at the right side of HMCPA front starts blinking.
- (5) RF signal generator is connected to the input terminal.
- (6) Input the RF signal, then, the RF power is adjusted up to become to the regular range gradually, the maximum power is 120 watts (50dBm).
- (7) It will spend 10 to 30 minutes up to settle after becoming 120 watts. Besides, the RF gain fluctuates. Therefore, it will need to adjust the input power level once again.

Note)

- (a) If the PS cable used is thin, the supply voltage will be decreased when intense electric current flows after power ON. Thus, please adjust the voltage so as to keep 28V supply at PS terminal board.
- (b) Please leave HMCPA as it is for about 5 minutes after power ON so as to make HMCPA itself warm-up.
- (c) In case that "ALM" LED (red) is ON for more than 1 minute after power ON and meanwhile "ACT" LED (green) is OFF, please turn off NFB switch.
- (d) In case that "ACT" LED (green) doesn't blink and "ALM" LED (red) is ON even though turning ON the NFB switch again, the HMCPA may be damaged.

Table 1-1 : HMCPA specifications

Item	GSM	EDGE	Remark
Modulation	GMSK	8PSK	
Frequency Range	1930 to 1990MHz		
Operating Bandwidth	30MHz	Usable in consecutive 30MHz	
Output Power	120W		
RF Gain	51.8dB +/-1.0dB		
Passing band Flatness	< +/-0.5dB		
Input / Output Return Loss	> 14dB		
DC Input Voltage	28V		