

Crescend Power Amplifiers P10-1FA4-C5-001 User's Manual

1. General Information.

The power amplifier (PA) is nonlinear AB to C class unit that is intended for frequency (phase) modulated (manipulated) signals amplification.

There is the fan for forced cooling. The automatic power control loop keeps the output power at the rated level. It reduces this level, when the load VSWR is above 2, when the heatsink temperature exceeds +85°C or under the outer control.

Frequency range of operation (F), MHz	220 - 222;
Input power (Pin), W	1 - 4;
Output power (Pout), W, not less than	100;
Relative harmonic level, dBc, less than	-70;
DC power supply voltage (Vsup), V, nominal	48;
Allowed DC power supply voltage tolerance, V, not greater than	±1.5;
DC current, A, not greater than	4.5;
Load VSWR, not greater than	2.5;
Input VSWR, less than	1.7;
Operating temperature range, °C	-30 to +60;
RF connectors	50 Ohm N (F);
DC connectors	# 6-32 screws.

2. Installation Guide.

Unit is intended for a rack installation in a standard 19" cabinet, where it requires 4U high slot. The installation shall provide a proper air access to the unit; no obstacle for air is allowed closer than 3" from fan and air exits.

Copper wires # 10 AWG shall be use in DC power line. Wires shall be crimped to ring terminals

3. Operation Guide

- The power supply voltage should be in the limits 46.5 – 49.5 V;
- Do not apply RF signal out of rated 220-222 MHz frequency range;
- For transmitting the input RF power should be in the range 1...4 W.
- Do not destroy the sealing and other labels.

Green LED "DC ON" shines, if the power supply voltage is applied to the unit.

The fan rotates, when the rated RF signal is present at the input.

Red LED "LOW OUT" goes on, if the output power fails to more than 1 dB below the rated level. It may indicate a problem inside the unit. Be sure that the power supply voltage and input power are in the allowed limits.

Red LED "HIGH VSWR" goes on, when the load VSWR is greater than 2 – 2.5.

Red LED "HIGH TEMP" goes on, when the heatsink temperature exceeds +85°C.

FCC RF Exposure:

This transmitter must be restricted to work related operations in a controlled RF exposure environment. All qualified end-users of this device must have the knowledge to control their exposure conditions and/or duration, and the exposure conditions and/or duration of their passengers, to comply with the General Population/Uncontrolled MPE limit and requirements. All users should maintain a safe distance of 56cm.

Part 90 Signal Booster

This is a 90.219 Class B Device

WARNING: This is NOT a CONSUMER device. It is resigned for installation by FCC LICENSEES and QUALIFIED INSTALLERS. You MUST have an FCC LICENSE or express consent of an FCC Licensee to operate this device. You MUST register Part 90 Class AB signal boosters (as defined in 47 CFR 90.219) online at www.fcc.gov/signal-boosters/registration. Unauthorized use may result in significant forfeiture penalties, including in excess of \$100,000 for each continuing violation

The output power of this device is limited to 100 Watts. When you choose an antenna to use, please reduce the maximum output power of this device so that the ERP does not exceed the 5 Watt Limit. To comply with the rule part 90.219: the antenna must have maximum (-13dBi) gain and the antenna must be installed less than 300m height per FCC Part 90.729 (a) the “ERP vs Antenna Height Table”.

ISED WARNING STATEMENTS

This radio transmitter has been approved by Industry Canada to operate with an antenna at 0 dBi.

The output power of this device is limited to 100 Watts. When you choose an antenna to use, please reduce the maximum output power of this device so that the ERP does not exceed the 100 Watt limit.

This transmitter must be restricted to work related operations in a controlled RF exposure environment. All qualified end-users of this device must have the knowledge to control their exposure conditions and/or duration, and the exposure conditions and/or duration of their passengers, comply with the General Population/Uncontrolled MPE limit and requirements. All users should maintain a safe distance of 56cm or 22.05 inches.

Cet émetteur radio a été approuvé par Industrie Canada pour fonctionner avec une antenne à 0 dBi.

La puissance de sortie de cet appareil est limitée à 100 Watts. Lorsque vous choisissez une antenne à utiliser, veuillez réduire la puissance de sortie maximale de cet appareil afin que l'ERP ne dépasse pas la limite de 100 watts.

Cet émetteur doit être limité aux opérations liées au travail dans un environnement d'exposition RF contrôlé. Tous les utilisateurs finaux qualifiés de cet appareil doivent avoir les connaissances pour contrôler leurs conditions d'exposition et / ou leur durée, ainsi que les conditions d'exposition et / ou la durée de leurs passagers, conformément à la limite et aux exigences MPE générales / non contrôlées. Tous les utilisateurs doivent maintenir une distance de sécurité de 56 cm ou 22.05 pouces.

The output power of this device is limited to 100 Watts. When you choose an antenna to use, please reduce the maximum output power of this device so that the ERP does not exceed the 50 Watt Limit. To comply with the rule part RSS-119 the antenna must have maximum (-3dBi) gain and the antenna must be installed less than 300m height per SRSP-512, Section 6.3.1.1 the “ERP vs Antenna Height Table”.

La puissance de sortie de cet appareil est limitée à 100 Watts. Lorsque vous choisissez une antenne à utiliser, veuillez réduire la puissance de sortie maximale de cet appareil afin que l'ERP ne dépasse pas la limite de 50 watts. Pour se conformer à la règle RSS-119, l'antenne doit avoir un gain maximum (-3 dBi) et l'antenne doit être installée à moins de 300 m de hauteur par SRSP-512, section 6.3.1.1 le «ERP vs Antenna Height Table».