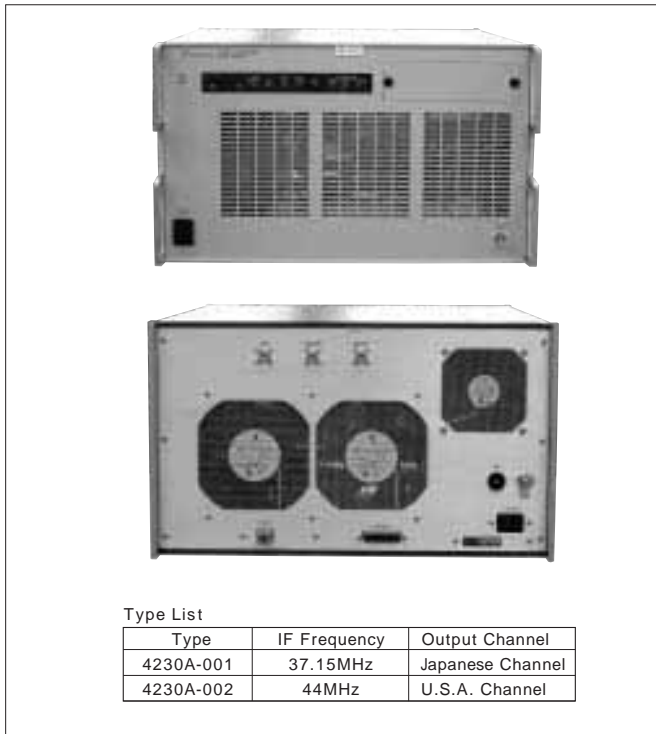


4230A-001

1W UP CONVERTER

Digital TV development & production facilities



Type List

Type	IF Frequency	Output Channel
4230A-001	37.15MHz	Japanese Channel
4230A-002	44MHz	U.S.A. Channel

General

This unit is synthesized up converter of UHF band corresponding to terrestrial digital broadcasting system. Also, this unit has 1W output power (Average power), so that it is the most suitable for factory facilities.

Features

- By combining with models, such as ISDB-T (OFDM) Modulator <Model : 3509A and etc.>, it is used as centralized signal facility for TV and VTR factories.
- UHF channels (Japanese) are fully covered, and 1/7MHz offset function is provided.
- AGC/MGC function can be switched on front panel and adjustment of gain is possible.

Composition

Main Unit	1
Dimensions	425(W) × 249(H) × 530(D) mm (Excluding projections)
Weight	Approx. 30 kg
Accessories	
Power Cable (Including 3pin 2pin converter)	1
Rack Mount Adapter	1set
Instruction Manual and Test Result Sheet	1
Power Source	
Input Voltage Allowable Range	: AC90V ~ AC250V (50Hz/60Hz)
Power Consumption	: Approx. 470VA
Operating Environment	
Temperature	: +5 ~ +40
Humidity	: 45% ~ 85%RH (No dew generation)

Rating

Input

- Center Frequency**
37.15MHz or 44MHz is designated (By type name)
- Input Impedance**
50 (BNC-R)
- Input Level**
- 10dBm ± 2dB (Average power)
- Signal Bandwidth**
± 4MHz

Output

- Center Frequency**
Voluntary TV channel of 473MHz ~ 767MHz (Japan and U.S.A.)
ON/OFF function of 1/7MHz offset is provided.
- Output Impedance**
50 (N-R)
- Output Level**
+ 30dBm (Average power)
- Output Level Variation**
To be able to set rated level (+ 30dBm).
- Level Control**
Average AGC (AGC OFF function is provided)
- Spectrum Polarization (Frequency Conversion Polarity)**
Invert

Frequency Reference Signal Input/Output (External/Internal)
External Reference Signal Input

- Frequency**
10MHz ± 5ppm

- Input Level**
More than 0dBm (Max. + 18dBm)

- Impedance**
50 /BNC-R
- Reference Signal (External/Internal) Output

- Frequency**
10MHz
- Output Level**
TTL (Equivalent to 74S140)
- Impedance**
50 /BNC-R

Operation

Reference Signal (External/Internal) Output
All operation is made from front panel.

- Output Frequency**
Channel is designated by rotary switch.
- 1/7MHz Offset**
ON/OFF is switched by toggle switch.
- AGC/MGC**
AGC/MGC is switched by toggle switch.
- Level Fine Adjustment**
Setting is made by potentiometer (Using screw driver for adjustment)

Alarm

This is indicated on front panel with LED. Contact output connector of alarm is equipped on rear panel (D-SUB 25pin female). Kinds of alarm are as follows.

- INPUT OVER: IF input level is exceeded.
- REFERENCE PLL UNLOCK: PLL is unlocked in operating with external reference.
- 1st LOCAL PLL UNLOCK: 1st LOCAL PLL is unlocked.
- 2nd LOCAL PLL UNLOCK: 2nd LOCAL PLL is unlocked.
- FAN: FAN motor is abnormal.
- TEMP: Inner temperature is abnormal (Over heat).

Performance

- Output Level Stability**
Within ± 1dB (At AGC working, frequency is fixed)
- Frequency Response within Band**
Within 1dBp-p
- Group Delay within Band**
Within 20nsp-p
- Distortion**
IM3 (2tone) Less than - 60dB @ + 27dBm/each
- C/No**
More than 128dBc/Hz @ 2MHz offset
- Spurious**
Harmonics Less than - 40dB @ + 30dBm
Non-harmonics Less than - 60dB @ + 30dBm (Total power reference)
- Frequency Stability**
Within ± 5ppm (At the time of operating with internal reference)
Depending on accuracy of external reference signal when operation is made by external reference.
- Phase Noise**
- 102dBc/Hz typ. (- 97dBc/Hz max.) @ 1kHz offset

Performance Example

At the time of ideal ISDB-T signal input (MODE3, 64QAM, GI : 1/8), output power: + 30dBm, spectrum mask break point: Less than - 50dB (fo ± 4.36MHz).

Spectrum analyzer setting: RBW=10kHz, VBW=300Hz