

No. FM23-0\*\*\* Model Name ATW-T1802

## ATW-T1802 Adjustment Procedure

### 1. Required Equipment

- |                                     |                                       |           |
|-------------------------------------|---------------------------------------|-----------|
| a. Audio Signal Generator           | : Leader                              | LAG-126   |
| b. Oscilloscope                     | : Kenwood                             | CS-4135   |
| c. Spectrum Analyzer                | : Advantest                           | R3361A    |
| d. Modulation Analyzer              | : Anritsu                             | MS616B    |
| e. Noise Meter                      | : National                            | VP-9680A  |
| f. DC Power Supply                  | : Kenwood                             | PA18-1.2A |
| g. Multi Meter                      | : Agilent                             | 34401A    |
| h. RF Custom cable, BNC to MM121454 | : Audio-Technica custom made RF cable |           |

### 2. How to enter the Adjustment Mode

2-1 Push and hold both SW301 (SET) and SW351 (Power) together until turn the power "ON"

2-2 Push and hold both SW303 (UP) and SW302 (Down) together until "ADJ" appeared on LCD screen.

### 3. Adjustment

#### 3-1 Frequency response

##### 3-2-1 Spectrum Analyzer set up:

Center Frequency	668.000MHz
Frequency Span	100KHz
Counter Mode	ON

##### 3-2-2 T1802 set up

Frequency	668.000MHz
RF HI / LOW	RF HI
AF Gain	-6DB
Lock	NO.LOC
MIC/INST	MIC
PE ON/OFF	PE ON
LMT. ON / OFF	LMT.OFF
PRESET	PRESET
QUIT	QUIT

##### 3-2-3 Adjustment

- Adjust the VC301 to put main carrier signal to center of the screen on spectrum analyzer.
- Adjust the VR151 to set main carrier peak leading to 120.1dBuV.
- Using power button and switch T1802 output power setting to "RF LOW"
- Adjust the VR101 to set main carrier peak leading to 115dBuV.

#### 3-2 Pilot tone deviation level

##### 3-3-1 Spectrum Analyzer set up

Center Frequency	668.000MHz
Span	100KHz

Counter Mode	ON
DSP LINE	ON, Set it to 20dBc below peak

### 3-3-2 T1802 set up

Frequency	668.000MHz
RF HI / LOW	RF HI
AF Gain	-6DB
Lock	NO.LOC
MIC/INST	MIC
PE ON/OFF	PE ON
LMT. ON / OFF	LMT.OFF
PRESET	PRESET
QUIT	QUIT

### 3-3-3 Adjustment

- a. Adjust the VR201 to set level difference between main carrier and tone peak to 20dBc

## 3-3 Audio deviation level

### 3-4-1 Modulation Analyzer set up

Deviation Sens.	p-p /2
Range	40KHz
HPF	50Hz
LPF	3KHz
Frequency	668.000MHz

### 3-4-2 Audio Signal Generator set up

Signal Level	+4dB
Frequency	1KHz

### 3-4-3 T1802 set up

Frequency	668.000MHz
RF HI / LOW	RF HI
AF Gain	-6DB
Lock	NO.LOC
MIC/INST	MIC
PE ON/OFF	PE ON
LMT. ON / OFF	LMT.OFF
PRESET	PRESET
QUIT	QUIT

### 3-4-4 Adjustment

- a. Apply audio signal from the Audio Signal Generator to the TP201 AF+ /TP203(GND) 1
- b. Adjust the VR202 to set deviation to +/- 35KHz

## 4. Performance check

### 4-1 Microphone input frequency response

#### 4-1-1 Modulation Analyzer set up

Deviation Sens.	p-p /2
Range	40KHz
HPF	50Hz
LPF	20KHz
Frequency	668.000MHz

#### 4-1-2 Noise Meter set up

Response	AVE
Weighting	WIDE

#### 4-1-3 Audio Signal Generator set up

Level	-33Db
Frequency	1KHz

#### 4-1-4 T1802 set up

Frequency	668.000MHz
RF HI / LOW	RF HI
AF Gain	-6DB
Lock	NO.LOC
MIC/INST	MIC
PE ON/OFF	PE ON
LMT. ON / OFF	LMT.OFF
PRESET	PRESET
QUIT	QUIT

#### 4-1-5 Measurement procedure

- a. Record the Noise Meter reading and set it as reference (0dB).
- b. Turn the Audio Signal Generator frequency to 100Hz.
- c. Read the Noise meter and confirm that level difference from 1KHz reference not exceeding  $0 \pm 1$ dB of range.
- d. Turn the Audio Signal Generator frequency to 10KHz.
- e. Read the Noise meter and confirm that level difference from 1KHz reference not exceeding  $+8 \pm 1$ dB of range.

#### 4-2 Current consumption

- a. Set RF power to Hi
- b. Measure the current consumption by the Multi Meter and confirm that it not exceeded 230mA.
- c. Turn the RF power to Low
- d. Measure the current consumption by Multi Meter and confirm that it not exceeded 190mA