



AEQ ARROW 50T and 50R

Portable audio link

USER MANUAL

ED 07/06

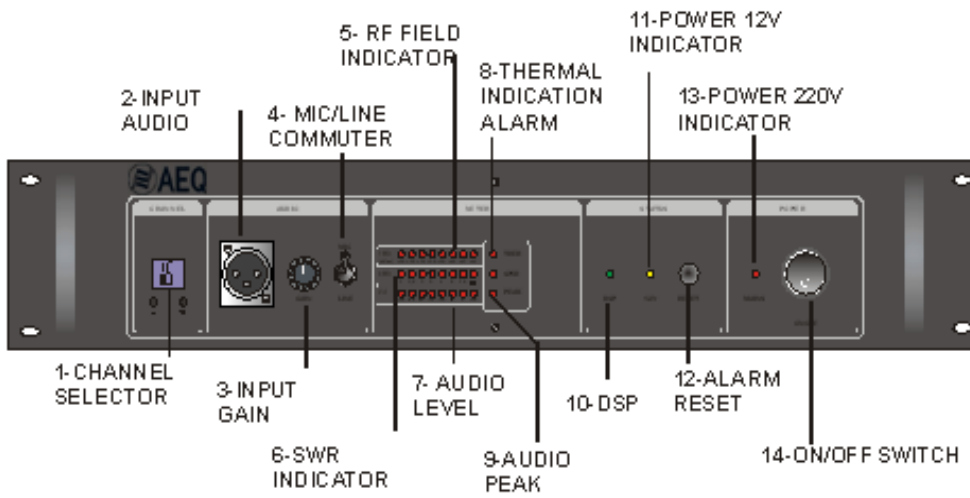
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ARROW 50T FRONT VIEW



ARROW 50T DESCRIPTION OF THE UNIT

The system AEQ ARROW 50T base transmitter is a long range radio link with broadcast quality audio, designed for easy handling and high reliability.

This device is implemented using the latest electronic and manufacturing technologies (SMT) and high quality components.

This transmitter is a multichannel system in VHF range with very complete protection system.

The transmitter has a select mic/line audio input and gain adjust. This audio signal of very high quality is submitted a compression/limitation system with pre-emphasis of 50/75 us (upon request).

ARROW 50T GENERAL CHARACTERISTICS

- To be used for radio-diffusion link.
- Multi-channel system (synthesized by PLL)
- Select mic/line audio input
- Compressor/limiter
- High quality audio
- FM bandwidth emission
- Power 115/220 VAC internally selectable
- In rear panel optionally is equipped a BNC connector, used to activate RF power (If not short-circuited, no RF power were present), a BNC connector is sent to put in this place

ARROW 50T TECHNICAL SPECIFICATIONS

RADIO	
FREQUENCY RANGE:	174-500 MHZ, WINDOW OF 20 MHZ DEPENDING ON VERSION (A,B,C)
POWER:	30W, 100%, DUTY CYCLE, DELAYED ON
CHANNELS:	16, PLL DIGITAL.
CH SELECTOR:	2 DIGIT DECIMAL ENCODER, DELAYED.
MODULATION:	+/- 30 KHZ PRE-ENPHASIS 50/75US (OTHER STANDARDS UPON REQUEST)
OUTPUT IMPEDANCE:	50 OHM
SPURIOUS EMISSIONS:	< -65 DBC
RF OUTPUT CONNECTOR:	TYPE N

AUDIO	
AUDIO INPUT:	MIC/LINE SEL.
NR SYSTEM:	"SILENZO" COMPRESSOR LIMITER
DSP:	32 BITS (OPTION)
GAIN CONTROL:	FRONT PANEL
AF BANDWIDTH:	50 HZ/15 KHZ +/- 0,5 dB
DISTORSION:	<0,3%
AUDIO CONNECTOR:	XLR3, F
SNR:	>85 dB

PROTECTION AND INDICATORS	
ROE PROTECTION	
THERMAL PROTECTION	
VU-METER	
SWR INDICATION	
FWD INDICATION	
DC AND AC INDICATION	
SWR INDICATION ALARM, LED AND BUZZER	
THERMAL INDICATION ALARM, LED AND BUZZER	

GENERAL	
RESET CONTROL	
ON/OFF SWITCH	
CHANNEL ENCODER CONTROL	
POWER	115/220 VAC INTERNALLY
DIMENSIONS:	2HU 19" x 250 MM.
WEIGHT:	3,2 Kg
POWER CONNECTOR:	POWERCOM FOR AC/XLR4 F FOR DC
SUBD CONNECTOR:	FOR REPROGRAMMING

ARROW 50T STARTING

Please check that you are using the appropriate antenna and it is correctly connect, because the equipment have a high RF power.

After this, you must do the following:

- If you use 115/220 VAC, connect the cable, checking that the ON/OFF switch is in OFF.
- Connect the equipment, switch ON.
- Check the channel selected.
- Connect the audio input with the correct level gain.
- All ERROR indicators should be switch off.

ARROW 50T POSSIBLE PROBLEMS AND SOLUTIONS

1. SWITCH ON the 12V indicator is not lighting:
 - Check that the cable is correctly connected.
 - Check that the DC bridge is correctly placed.
 - Check fuse status.
2. SWR indicator is lighting:
 - Check the antenna position and connection are correct.
 - Press the RESET button, if the error persists, switch OFF the equipment and check all the connections and procedures of starting.
3. Thermal indicator is lighting:
 - Check the external equipment temperature.
 - Press RESET. If the problem is the same, switch off and cool the equipment. After this procedure, switch ON the equipment.
4. In the normal working, the SWR indicator is lighting:
 - Check the antenna connection, position and status.
 - Press the RESET button and if the problem persists, switch OFF the equipment.
5. In the normal working, the thermal alarm is lighting:
 - Check the external equipment temperature.
 - Press RESET button. If the problem continue, cool the equipment totally switch OFF
6. Transmitted audio is distorted:
 - Check the audio input level gain.
 - Check audio Rx output

Normally we recommend installing the equipment in a good ventilated place. Also is very important in order to get the best characteristics of the equipment the correct position of the antennas in order to obtain the best radio link. Please check the RF spectrum and the frequencies range that you will use in order to select the most favourable channel in each moment.

ARROW 50T ASSOCIATED EQUIPMENT

- AEQ ARROW 50R base receiver
- 3 Elements standard Yagi antenna, 9,5 dBi
- Magnetic base antenna, usually mounted over the top of moving vehicles.

ARROW 50T CHANNEL TX FREQUENCIES LIST

ARROW 50T AUDIO SIGNAL INPUT/OUTPUT CODES:

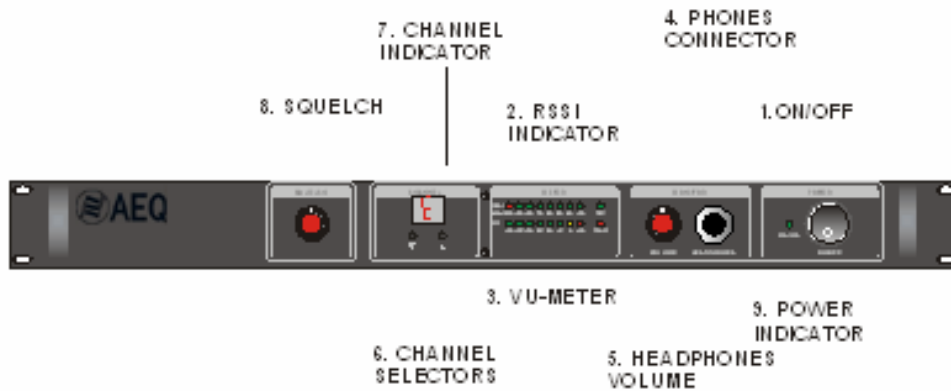
- One XLR3 F to audio input mic/line UHF Tx:

1. GND
2. Phase +
3. Phase -

- XLR4 F 12 V DC:

1. -
2. NC
3. NC
4. +

ARROW 50R FRONT VIEW



ARROW 50R DESCRIPTION OF THE UNIT

The Base receiver AEQ ARROW 50R has been designed to cover a lot of applications together with the mobile transmitter AEQ ARROW 50T or with the compact mobile transmitter AEQ ARROW MIXER, with the main following characteristics:

- Digital PLL
- De-Emphasis/expander
- MUTE
- RSSI
- Vu-Meter
- Audio output headphones and line
- Aluminium enclosure 1RU 19"

ARROW 50R CONTROLS, INDICATORS AND ACCESORIES

FRONT PANEL:

- 1.- ON/OFF switch
- 2.- RSSI Indicator
- 3.- VU-METER
- 4.- Phones output jack ¼"
- 5.- Headphones volume control
- 6.- Channel selectors
- 7.- Channel indicator
- 8.- Squelch potentiometer
- 9.- Power indicator

REAR PANEL:

- 1.- Input RF (N-F connector)
- 2.- Output line (XLR3 connector)
- 3.- Input power (Powercom connector)
- 4.- Input 12V DC (XLR4 connector)
- 5.- BNC connector Rx active (open connector)

ARROW 50R TECHNICAL SPECIFICATIONS

RADIO	
FREQUENCY RANGE:	174-500 MHZ, WINDOW OF 20MHZ DEPENDING ON VERSIONS (A,B,C)
SENSITIVITY:	-112DBM / 12DB SINAD
CHANNELS:	16, PLL DIGITAL
CH SELECTOR:	2 DIGIT DECIMAL ENCODER, DELAYED
DEMODULATION:	+/- 30 KHZ DE-EMPHASIS 50/75US (OTHER STANDARDS UPON REQUEST)
INPUT IMPEDANCE:	50 OHMS
SPURIOUS EMISSIONS:	< -2NW
RF INPUT CONNECTOR:	TYPE N

AUDIO	
AUDIO OUTPUT:	LINE/600 OHMS/BALANCE
NR SYSTEM:	SILENTO EXPANDER
DSP:	32 BIT (OPTION)
MONITOR CONTROL:	FRONT PANEL
AF BANDWIDTH:	50HZ/15 KHZ +/- 0,5 DB
DISTORSION:	<0,3%
AUDIO CONNECTOR:	XLR3, M (REAR) JACK STEREO 1/4 (FRONT)
SNR:	>100 DB

INDICATORS	
RSSI (90DB RANGE)	
VU-METER	
POWER ON/OFF	
2 DIGIT DECIMAL ENCODER DISPLAY	
DC AND AC INDICATION	
DSP ENABLE	
AUDIO PEAK	

GENERAL AND CONTROLS	
ON/OFF SWITCH	
CHANNEL ENCODER CONTROL	
MONITOR VOLUME	
ALUMINIUM ENCLOSURE	
POWER:	90/200 VAC AND 12V DC / 0,25 A
WEIGHT:	1,5 Kg
POWER CONNECTORS:	POWERCOM FOR AC / XLR4 F FOR DC
<i>SUBD CONNECTOR FOR REPROGRAMMING</i>	

ARROW 50R STARTING

1. Connect the cable with Powercom In/Out connector and the “bridge” if you use 12V DC
2. Connect the antenna
3. Choose the channel
4. Connect the receiver at the minimum volume
5. Check the status in the front panel indicators.

ARROW 50R POSSIBLE PROBLEMS AND SOLUTIONS

1. If the receiver is connected and there is not audio:
 - Check the power connection
 - Check that Tx and Rx are in the same channel.
 - Check the volume
 - Check the antennas.

2. If you use several systems and you obtain interferences:
 - Check the channels to prevent intermodulations
 - Check that you don't have two equipments working in the same frequency

3. The audio quality is not the best:
 - Check the RSSI
 - Check the Rx audio signal is not distorted
 - Check the antennas

ARROW 50R CHANNEL RX FREQUENCIES LIST

ARROW 50R AUDIO SIGNAL INPUT/OUTPUT CODES:

- One XLR3 F to audio input mic/line VHF Tx:
 1. GND
 2. Phase +
 3. Phase -

- One Jack stereo ¼" output signal from UHF Rx

- XLR4 F 12 V DC:
 5. -
 6. NC
 7. NC
 8. +