AEQ LIVE 20

Reporting unit with talkback

USER MANUAL

ED 07/06

LIVE 20TR USER'S MANUAL

LIVE 20T & LIVE 20R USER'S MANUAL

LIVE 20TR GENERAL DESCRIPTION

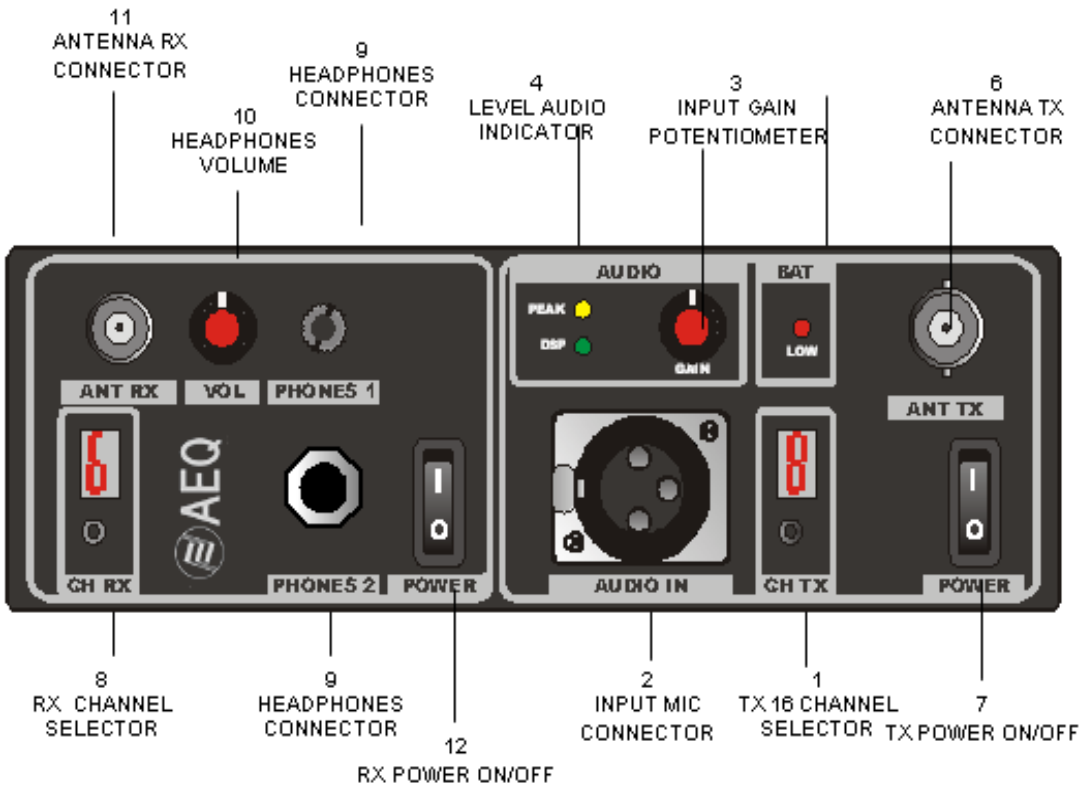
The AEQ LIVE 20TR full-duplex reporter unit has been designed thinking in situations where a portable and autonomous system allows performing live reports.

The unit is equipped with 16 channels in the transmitter side as well as 16 channels in the receiver section.

The transmitter is a high quality wireless microphone with a power up to 3W in order to cover extensive areas.

The talkback receiver completes the full-duplex system.

LIVE 20TR FRONT VIEW



LIVE 20TR VHF TRANSMITTER

1. TX 16 CHANNEL CONNECTOR – The user can choose any of 16 channels by a digital selector.

2. AUDIO IN CONNECTOR: By a XLR3 F connector with the following code:
   1 – GND
   2 – Phase +
   3 – Phase –

3. Gain Potentiometer

4. Audio peak indicator LED

5. BATTERY LEVEL INDICATOR
   - LOW – enough battery charge. If LOW is lighting you must replace the batteries.

6. ANTENNA CONNECTOR (BNC) – Please check that the antenna is correctly placed before switch on the unit.

7. Power ON/OFF.

LIVE 20TR UHF RECEIVER

8. RX 16 CHANNEL SELECTOR – The user can choose any of 16 channels by a digital selector.

9. HEADPHONES CONNECTORS – The unit has two headphones connectors. (1/4" and 3,5 mm)

10. TALKBACK VOLUME POTENTIOMETER – You can regulate the headphones volume from 0 to 140mW approx. (in 16 ohms headphones)

11. ANTENNA RX CONNECTOR – TNC type.

12. POWER ON/OFF

LIVE 20TR ANTENNA CONNECTORS

- VHF Transmitter: BNC connector.
- UHF Receiver: TNC connector.

You must use the antennas that we enclose with the unit because this are adjusted to the frequencies.

LIVE 20TR CHANNEL CODE

CH	FREC.	CH	FREQ.
0	1	8	9
1	2	9	10
2	3	A	11
3	4	B	12
4	5	C	13
5	6	D	14
6	7	E	15
7	8	F	16

LIVE 20TR BATTERY LOW INDICATOR

It is the battery status indicator. If the led is lighting, then you must change the batteries.

LIVE 20TR AUTONOMY

During normal (HI POWER) operation with fresh batteries you can expect more than 4 hours of continuous operation.

NOTE this unit can also be powered with a Li-Ion pack battery type DR-202 that can be charged inside the LIVE 20TR or with the charger CH-42.

LIVE 20TR TECHNICAL SPECIFICATIONS

RADIO VHF TRANSMITTER	
-Frecuency range:	170-250 MHz
-Power:	3W
-Output impedance:	50 ohms
-Channels :	16 digital PLL
-Modulation:	+/- 30KHz pre-emphasis 75us
-Spurious emissions:	<- 60dBc
-RF connector:	BNC
-Channel selection:	1 digit hexadecimal encoder, delayed
ON and channel change	
AUDIO VHF TRANSMITTER	
-Input:	Balanced mic and line switchable
-NR system:	“Silenzo” compressor limiter
-Gain control	
-AF bandwidth:	50Hz/15 KHz +/- 0,5 dB
-Distorsion:	<0,3%
-Audio connector:	XLR 3 F
-SNR:	>85dB
RADIO UHF RECEIVER	
-Frecuency range:	440-470 MHz
-Channels:	16 digital PLL
-Sensitivity:	-112dBm / 12dB SINAD
-Demodulation:	+/-30 KHz de-emphasis 50 us
-Input impedance:	50 Ohms
-Spurious emissions:	<- 2nW
-RF connector:	TNC
-Channel selection:	1 digit hexadecimal encoder
AUDIO UHF RECEIVER	
-Output:	Headphones output 1,5V/8 ohm
-NR system:	“Silenzo” expander
-AF bandwidth:	50 Hz/15KHz +/- 0,5dB
-Distorsion:	<0,3%
-Connector:	Jack stereo ¼” and minijack 3,5 mm
-SNR:	>85dB
DIMENSIONS, WEIGHT AND CONTROLS	
-ON/OFF switch:	TX and RX
-Separate RX and TX channel connector	
-Mechanized aluminium enclosure, microwave technology	
-Battery status	
-Audio peak	
-Dimensions:	190 x 59 x182 mm
-Weight:	2,5 kgs (including batteries)
-Power:	12 alcaline batteries LR-14 or Ion/Lithium battery DR-202 type

LIVE 20T & LIVE 20R GENERAL DESCRIPTION

The system LIVE 20T & LIVE 20R is a full duplex portable station including a “PROGRAM” diversity receiver LIVE 20R and a “TALKBACK” transmitter LIVE 20R.

Together with the LIVE 20TR, they conforms a complete reporter system.

LIVE 20T

The talkback transmitter is 16 channels, usually pre-programmed in the 400-500 MHz band which could be reprogrammed by the user with very simple PC running software.

The frequency deviation depends on local regulations and must be aligned in factory.

The audio signal is processed with a compressor and limiter.

LIVE 20R

The RD-42 is a true diversity receiver containing two complete receivers with a low noise amp in each front end.

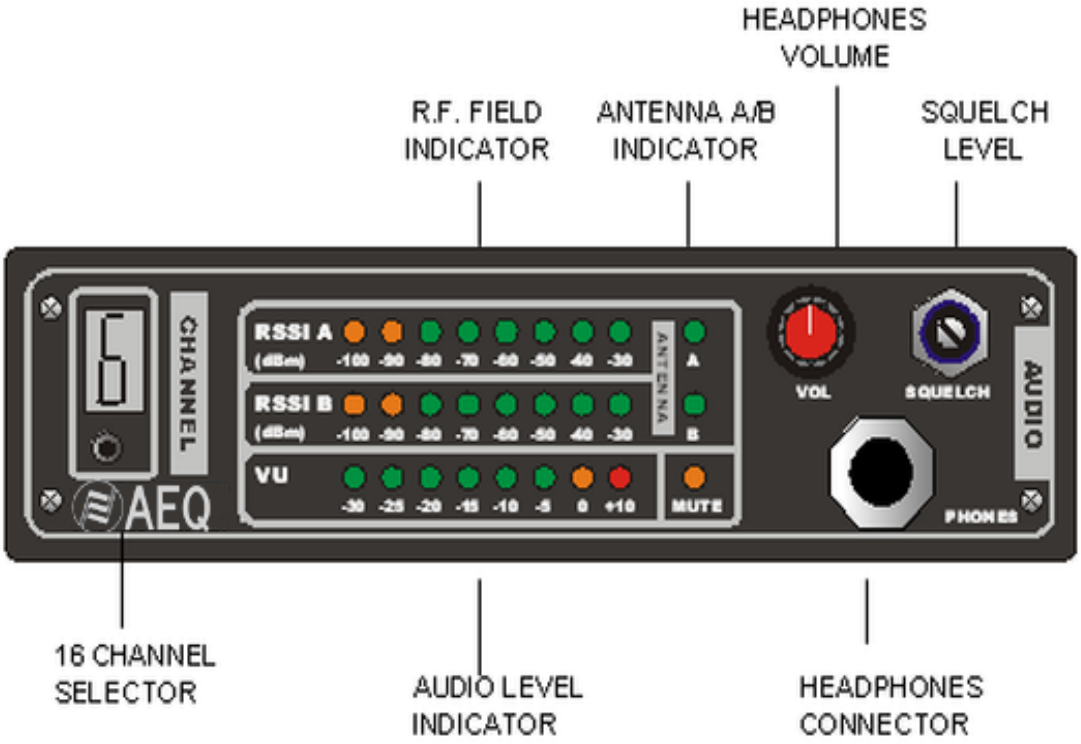
The audio processing consist in a very advanced expander that works together with the compressor-limiter equipped in the STAR-42, allowing a very high SNR.

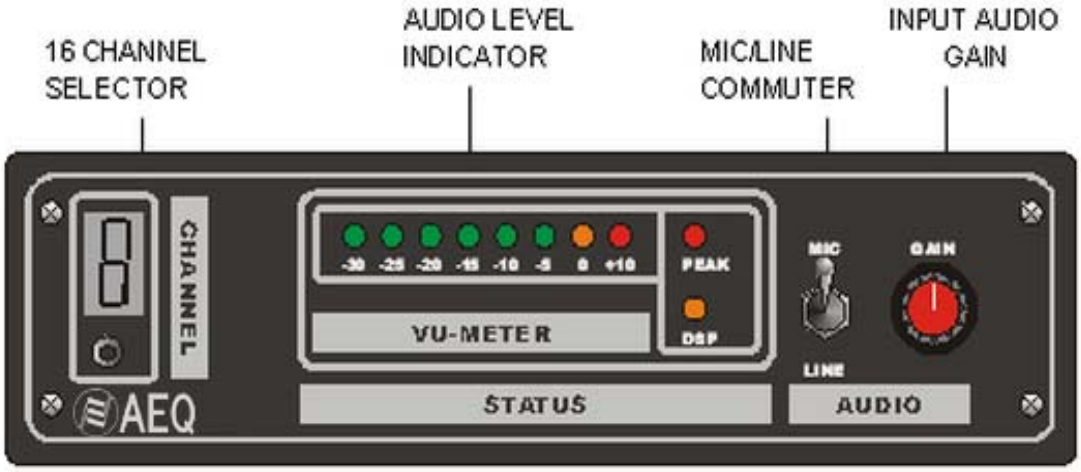
The frequency selection is made by the front panel selector among 16 pre-programmed channels.

The channel space as well as the centre frequency can be PC programmed by the user.

The standard frequency deviation is +/- 30 KHz but any value could be ordered and must be the factory aligned.

LIVE 20T & LIVE 20R FRONT VIEW





LIVE 20R TECHNICAL SPECIFICATIONS

RADIO	
Frecuency range:	174-187 MHz
Sensitivity:	-112dBm / 12dB SINAD
Channels:	16, PLL digital.
Ch Selector:	1 digit hexadecimal encoder
Demodulation:	+/- 30 Khz de-emphasis 75us
Input impedance:	50 Ohm
Spurious emissions:	< -2nW
RF input connectors:	BNC (2)
AUDIO	
Audio Output:	Líne/600 ohm/balanced(rear). Headphones(front)
NR system:	“Silenzo” Expander
DSP:	32 bit (option)
Monitor Control:	Front Panel
AF bandwidth:	50 Hz/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	
1 digit hexadecimal encoder display	
DSP enable	
Diversity A/B	
GENERAL AND CONTROL	
ON/OFF Switch	
Channel encoder control	
Monitor volume and Squelch	
Aluminium enclosure	
Power:	External 12V DC / 0,25 A
Dimensions:	300x145x40 mm (1/3 rack)
Weight:	0,9 Kg
Power connector:	XLR4 F
RS 232 bus for reprogramming.	

LIVE 20T TECHNICAL SPECIFICATIONS

RADIO	
Frecuency range:	174-500 MHz
Power:	Up to 5W, 100%, duty cycle, delayed ON.
Channels:	16, PLL digital.
Ch Selector:	1 digit hexadecimal encoder, delayed
Modulation:	+/- 30 Khz pre-emphasis 50us
Output impedance:	50 Ohm
Spurious emissions:	< -65 dBc
RF output connector:	Type N
AUDIO	
Audio Input:	Mic/líne sel.
NR system:	“Silenzo”Compressor limiter
Gain Control:	Front Panel
AF bandwidth:	50 Hz/15 KHz +/- 0,5 dB
Distorsion:	<0,3%
Audio connector:	XLR3 F
SNR:	>85 dB
INDICATORS	
VU-meter	
Audio Peak	
DSP enable	
Channel display	
GENERAL	
ON/OFF Switch	
Mic/line Switch	
Channel encoder control	
Audio Gain control	
Power:	external 12V DC / 2 A
Dimensions:	300x145x40 mm (1/3 rack)
Weight:	0,8 Kg
Power connector:	XLR4 F
RS 232 bus for reprogramming.	

STARTING TO WORK WITH THE LIVE 20TR

- Connect the antennas.
- To get the best transmission range, we recommend putting the TX antenna on the shoulder adaptor (option).
- Check the batteries. The user must put a new battery pack totally charged before a new work.
- Select the correct TX channel and RX channels.
- Adjust the input audio level.
- Check the output audio level in the headphones.

STARTING TO WORK WITH THE LIVE 20T & LIVE 20R

- Connect the antennas. The TX antenna will be a magnetic base type (with the system) or GP-70 or colineal type (optional)
- In any case we recommend using high quality coaxial cable of impedance 50 ohms.
- For the RX the user will have two magnetic base antennas (BM-150 type).
- Switch on the power supply and connect it to the LIVE 20T and LIVE 20R back connectors.
- Select the TX and the RX channel.
- Check the TX power ON

STARTING TO WORK WITH THE WHOLE SYSTEM

1. Connect all the antennas (LIVE 20TR, LIVE 20T & LIVE 20R). Be careful to put all the magnetic antennas on a magnetic material in order to have a good ground plane. The minimum separation must be 2 meters between one to each other.

2. Insert the battery in the LIVE 20TR. We suggest charging totally the battery before the use.

3. Choose, of course, the same channel at the LIVE 20R and the TX of the LIVE 20TR and also do the same with the LIVE 20T and the RX of the LIVE 20TR.

4. Adjust the audio in the LIVE 20TR and the LIVE 20T

5. Connect the LIVE 20R to a mixing desk or just listen with headphones.

6. Adjust for a proper listening level in your headphones (LIVE 20TR)

7. Now, you can send audio in both ways and test if you has the right program on the LIVE 20R and the proper talkback on the RX of the LIVE 20TR

ANEX 1

Audio signal input/output codes

LIVE 20TR have 3 audio connectors:

- One XLR-3 to audio input VHF TX:
    1. GND
    2. Phase +
    3. Phase -

- One ¼" jack stereo and one 3,5 mm. minijack output signal from UHF RX

LIVE 20T/LIVE 20R have 3 audio connectors:

- One XLR-3 F that this is the audio input at line level or micro to UHF TX:
    1. GND
    2. Phase +
    3. Phase -

- One XLR-3 M that this is the audio output at line level of VHF RX:
    1. GND
    2. Phase +
    3. Phase -

- One stereo ¼" Jack to audio output of VHF RX for headphones monitor.

- XLR4 12 V DC.
    1. -
    2. NC
    3. NC
    4. +

ANEX 2

TX frequencies of LIVE 20T and RX frequencies of LIVE 20TR:

ANEX 3

RX frequencies of LIVE 20R and TX frequencies of LIVE 20TR: