AIRLAB DT

a reliable choice to go on-air

P R O D U C T I O N | O N - A I R C O N S O L E

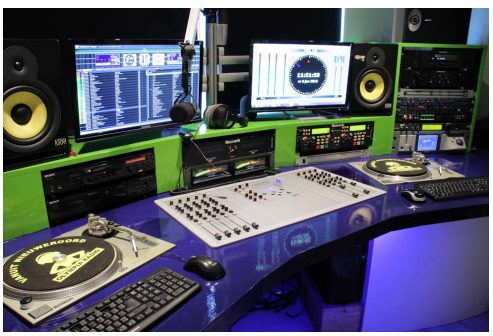
16 module positions
Modern D(rop) T(hrough design)
Music Play-out Control Module
Program and Sub busses

Ideal for production and On-AIR use
USB, Digital, Telco and VoIP modules
Bi directional Cue communication buss
Software metering

D&R
Since 1972

A Well Proven Broadcast Mixer

The new AIRLAB DT radio ON-AIR console is D&R's solution for applications where features and functions has to be weighed up against operational simplicity. A simple direct accessible control surface combined with intelligent instantly reset able digital functions enables customizing to station requirements and even to personal requirements because of the use of a personalized chip card, holding all important functional data. Purchasing choices are straightforward: the welded steel drop through frame will accommodate a maximum of 16 triple input modules with EQ, a digital AES/EBU in/output module, an USB module, a Control Module and Telco modules (up to 16) or VoIP modules and the master section.
The main outputs are electronically balanced (transformer balancing is an option) and the majority of connectors are on balanced XLRs.
With a sales track record (2023) of more than 1000 consoles in the field, this On-Air mixing console has proven its popularity and… reliability.



TRIPLE INPUT MODULE

The AIRLAB-DT triple input module combines a high quality mic input with two stereo line inputs.
The Mic input is electronically balanced with the industry standard THAT 1510 extremely low noise mic pre-amp. A 48 volt phantom power switch is provided for.

Apart from the gain control we have built in a front panel accessible trimmer to adjust the mic gain range more precisely.
A low cut filter can be activated by a jumper on the PCB.

The balanced mic input (with jack insert) is located at the back of the console on female XLR connectors.
The unbalanced stereo line B input, accessible on Cinch connectors, can be fitted with an RIAA plug-in PCB to also accept phono players.

The Line A input is balanced and on female XLR connectors.
There is a choice out of Triple Inputs modules, USB modules and a digital in/output module with the same front controls. In case of the USB and AES-3 module, Line B + its associated LED are not active anymore, but Line A is replaced by Stereo USB or AES-3 signals.

A maximum of 4 USB channels can be loaded to be routed to an internal 4 way hub.

The fixed, +/- 12dB limited three band equalizer is followed by a SUB and PROGRAM assign switch that routes signals to both outputs allowing production work to be carried out during broadcast.

The stereo Aux control can be selected pre or post VCA/MUTE, depending on jumper settings on the PCB.

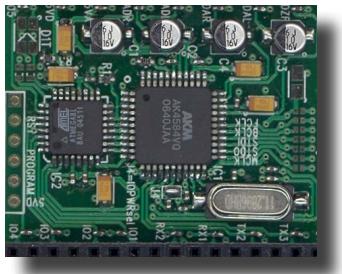
The stereo Aux send is followed by a Pan control, a CUE/SELECT switch and the channel ON switch disabling Cue, although it can be reactivated while the channel is on.

It is also possible to activate CUE via the channel remote. Cue becomes a Cough feature when the Mic input and the "ON-AIR" status is selected.

The AIRLAB is equipped with linear K-ALPS 100mm faders controlling high quality VCA's.
Start can be activated with the fader or ON switch, depending which is activated first.

Start can be software configured so that switching is from line A or line B.

Similarly, the Cue switch is under software control avoiding impossible settings.



Digital in/output pcb

Another Superb Broadcast Solution

TELCO or VoIP MODULE

The AIRLAB-DT frame has the possibility to be loaded with up to 16 Telco modules. Due to an ingenious Mix-Minus system, alignment is only necessary during installation.
The AIRLAB-DT Telco module is a straight forward design making communication very easy.
The first control is the front panel accessible, R BAL trimmer for side tone adjustment, only necessary during installation. The Telco Send knob controls the outgoing signal to the caller. This signal is coming from the PROGRAM or SUB bus.
The line input can be switched to a balanced XLR input connector to accept an external hybrid instead of using its own internal hybrid.

The“Connect” LED indicates that the internal Hybrid is active

A separate input gain control with High Pass and Low Pass filters can be used to enhance intelligibility.

The SUB and PROGRAM assign switch routes the signal to both outputs if needed.
The stereo Aux control has jumpers that select its source to be pre or post VCA/MUTE.
A Pan-pot and CUE/SELECT switch plus the ON switch completes the Telco module.
A 100mm linear fader controls a high quality VCA, eliminating any fader degradation in the future.

A Phone call can be taken with the ON switch when the fader is up or with the CUE/SELECT switch when the fader is down.
When CUE is active in the TELCO module, the caller is connected to the CUE bus and also the engineers talk-back, but does not go ON-AIR yet as long as the fader is down.

It is possible to connect both the CUE and ON switch to a Studio Remote unit, allowing a director to control the broadcast.

CENTRALISED MASTER SECTION WITH PROGRAMMABLE UTILITIES AND SCRIPT SPACE.

The master module is divided into three sections. The first section houses the TAPE SEND controls which selects the feed to the TAPE (record) output.
This could be either the SUB output signal or the AUX output signal.
The Stereo Aux master controls the outgoing Aux signals from the input modules. A Talk-back to AUX is available.
The lower part of this section houses the Control Room Monitor that can be fed by an EXT(ernal) stereo input, the stereo Aux output, a stereo ON-Air signal or the stereo SUB output signal.
All selections have LED indicators and the lowest switch has priority over the input switches above.

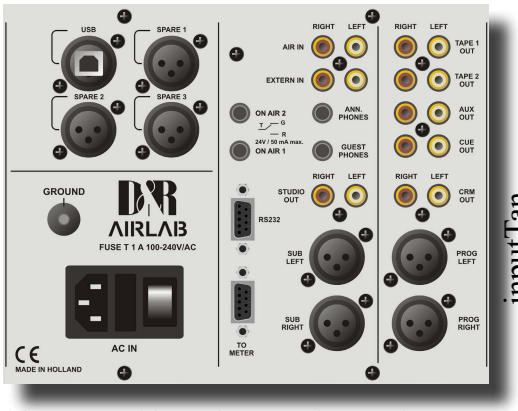
UNIVERSAL INPUT CONNECTOR PANEL.

All Channel modules use the same input connector panel. XLR inputs are balanced except for the Cinch connector. The INSERT is for voice processors.
The Start jack sends out signals from the fader/On start if the optional control module is present. In that case all control info is handled by the USB HID protocol.
The REMOTE is for our Studio Remote unit to communicate.
INSERT is a mic insert that can be used for voice processors.
The XLR LINE A Left and right are not present in case of a USB or Digital module. The RCA/Cinch connectors are also not active in case of a USB or Digital module.
Only MIC|USB or MIC|AES3 is available then.

You Want Reliability?

OUTPUTS OF THE AIRLAB-DT.

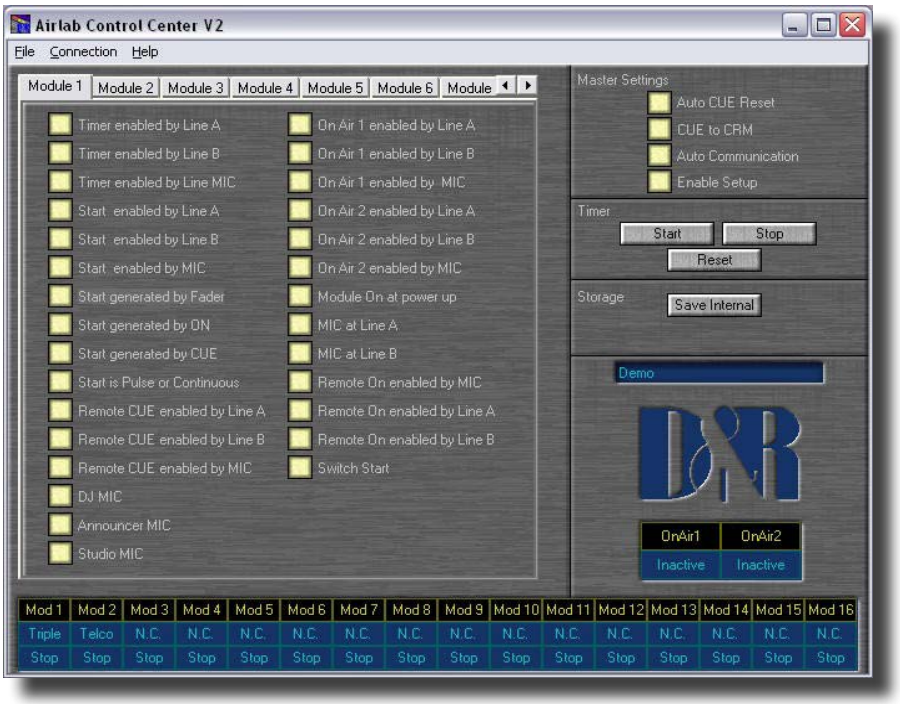
All outputs receive the signal that is selected by the input selection switches, or the Program output signal when no switch is activated.
The Studio output has a mute LED indicator when the output is muted.
All three outputs have a direct Talk back access switch for instant communication between control room and presenters area.
The Cue buss is the main communication buss in the console. When a listener calls the station, by pushing the Cue switch of the Telco module you have him or her directly on the control room monitors.
At the same time the internal electret microphone is activated so you can immediately respond.
The announcer can push his Studio Remote COMmunication button and is linked to the same Cue buss, so that is three of you talking with each other.
The AIRLAB-DT has a software meter application of which 2 meters are always connected to the main outputs and the other two are following whatever is heard on the CRM.
More details you will find elsewhere in this brochure.



SOFTWARE CONTROLLABLE SET-UP CAN BE STORED ON A CHIP CARD.

A speciality of the AIRLAB-DT is its ability to program all sorts of internal settings and then save it to a personalised chip card for instant reset. A chipcard is part of the delivery and many can be purchased later for more personal DJ settings.
The following settings can be programmed.

* Module set as DJ mic input
* Module set as Announcer mic input
* Module set as Studio mic input
* Start/Stop plus Pulse/Cont per module
* Cue start active
* Fader start or “ON” start per module
* External remote (in)active per module
* Timer start pulse per module
* On-Air control signal on/off per module
* Auto communication Announcer on/off
* Auto CUE reset on/off
* Auto CUE on/off



USB CONTROL SECTION.

On the optional Control Module of the AIRLAB-DT mixer you see 24 illuminated (green/red or yellow) switches and one Encoder.
These switches can be used to control functions in your Radio Automation such as starting jingles and switching between live and NON-STOP. The Software is available from our wiki service pages.
Recording a voice track while ON-AIR is one of the possibilities. The USB control software, part of the package, can be easily programmed by yourself, to make radio even more exciting.

Any switch can perform a function of your play-out software that you decide would be convenient to control. As a feedback of the action the switches can light up green/red or yellow.
The AIRLAB-DT has several internal switched mode power supplies that can handle any input AC voltage between 90 and 230 volts.
Power supply redundancy is an option with an optional extra power input connector.
The AIRLAB-DT frame can be easily mounted inside furniture as a drop through unit with rounded off corners to make a nice fit with a scriptspace in the middle.

A BUILT IN TIMER MODULE EXTENDS THE POSSIBILITIES OF THE AIRLAB-DT.

There is a Timer function built in the AIRLAB-DT for time related measurements such as duration of an incoming/outgoing call.
Timer set-up can be software controlled and stored.

A VERY SERVICE FRIENDLY DESIGN.

Its high quality clean analog audio path with a minimum of hardware switches in the audio path is your guarantee that this is a reliable radio console for daily broadcast for many years to come. At the same time is this console built as a rock and very service friendly. The Airlab-DT is modular and modules can be replaced while on-air.
The electronics are designed and built with Surface Mount Technoly (SMT) to guarantee ultimate reliability for your 24/7 production hours.

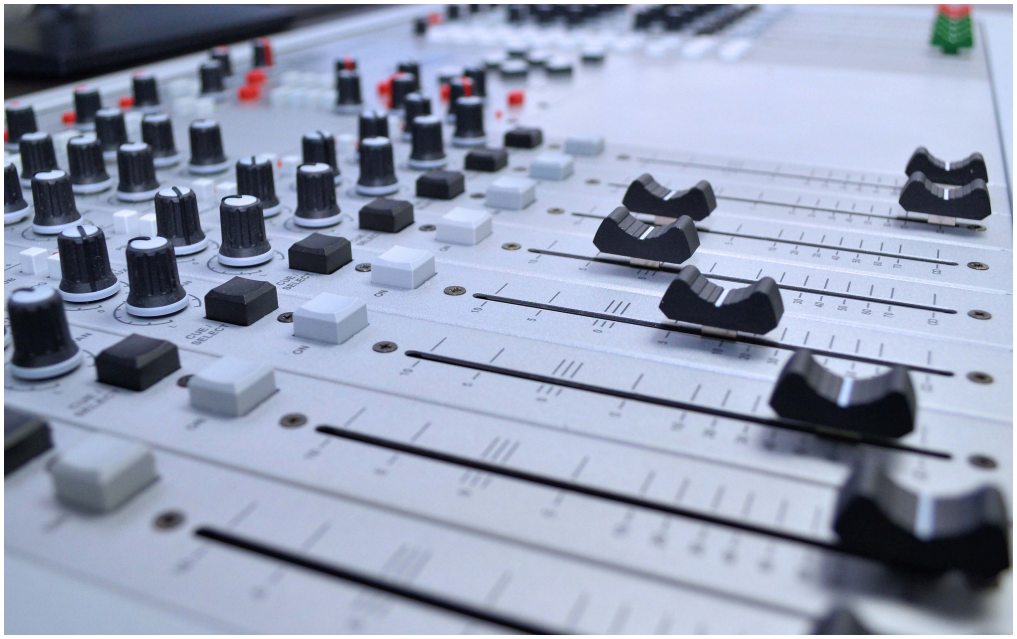
Metering & Software

SOFTWARE

The AIRLAB-DT sends out control signals over USB, based on the HID protocol. This also means that the main output signals can be displayed on a TFT screen in a beautiful meter application.
Both Program and Sub stereo signals are shown on a high resolution PPM.
A smaller separate stereo meter on the right hand side of the meter application shows all signals heard through the CRM speakers.
At the same time this software application shows you a professional looking Radio clock that is synchronized with your local PC

SUMMARY

We hope to have given you an idea of the huge potential of this new modular AIRLAB-DT broadcast mixer with a wide choice of input control modules. (A bluetooth module is in the pipeline)
If you need more info than presented here in this brochure, visit our website www.dnrbroadcast.com and download the manual for even more in depth info.



SPECIFICATIONS

INPUTS:
Mic inp : bal. 2kOhm - 128dBr (40dB gain range plus 30dB of trim range)
Line inp : bal 10kOhm +/- 20dB gain range.
Telco input: (XLR) 10kOhm bal. 0dBu nominal.
CMRR : mic input max gain: 1kHz 85dB
Line inp : max gain 1 kHz 80dB

EQUALISATION:
+/- 12 dB @ 10kHz shelving
+/- 12 dB @ 3kHz bell curve
+/- 12 dB @ 60 Hz shelving
Low Cut: 80Hz, 12dB per octave (mic only)
Low Cut: 200Hz, 6 dB per octave (Telco only)
High Cut: 8 kHz, 6 dB per octave (Telco only)

OUTPUTS:
Left/Right : +6dBu electronically balanced (transformer balancing is an option)
Sub : +6dBu electronically balanced.
All other outputs: +6dBu unbalanced.

OVERALL:
Frequency response : 20-20.000 Hz +/-0.5dB
Harmonic distortion : 0.035% (VCA in, 2nd harm)
Crosstalk : less than -90dBr
Noise : - 86dBr
Headroom : + 22dB internal, 16dB on outputs
Mix-Minus rejection : @1kHz -60dB
Channel fader attenuation: 1kHz, 100dB

OPTIONS:
Triple input channels (Mic/Line/line)
Digital in/output modules
USB modules
Telco modules
VoIP modules
Bluetooth modules (soon)

REMOTES:
All channel remotes are on stereo jack sockets.
Start/Stop switching is electronically.
Both ON-AIR 1 and 2 (red light) ou-puts are isolated by opto couplers.

DIMENSIONS AND WEIGHT
Weight : 26 kg / 58 Lbs
Drop through moun-ting hole dimensions : 590mm x 775mm

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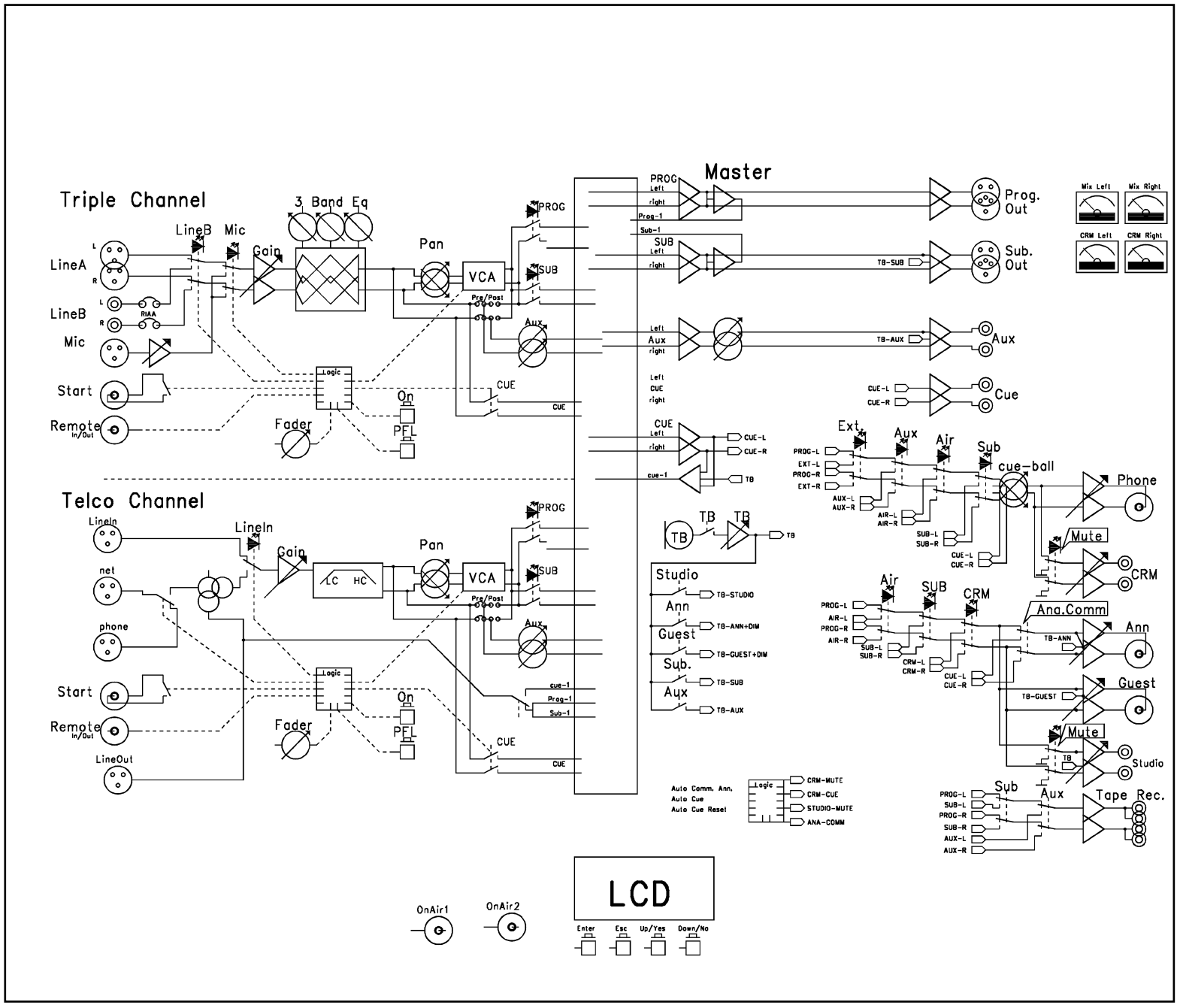
Since 1972

Signal Flow



Feels good does more

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