

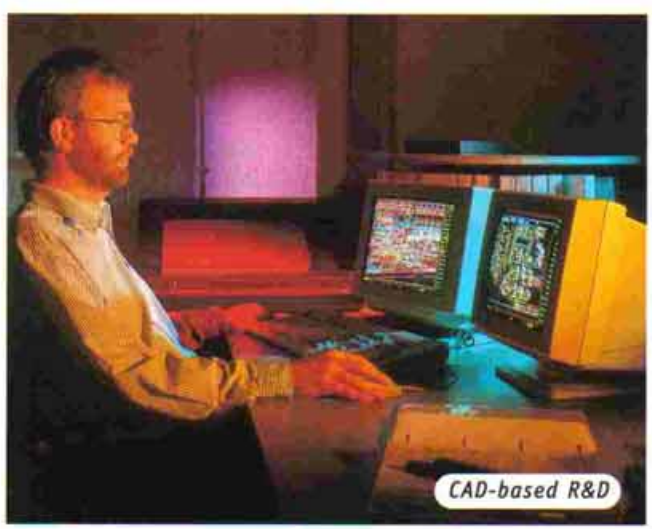
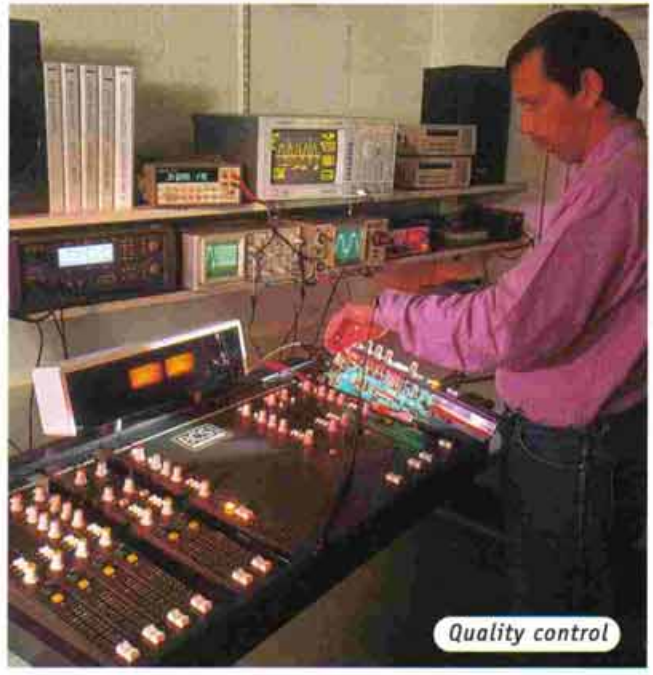


DATEQ

BCS

BROADCAST CONSOLE

"a new way of broadcasting" is an apt description of the BCS broadcast console series of Dateq. Modular construction, a proven reliability, easy to operate design and exceptional sound quality are some of the points why many local, commercial and nationwide radiostations all over the world already have



chosen Dateq consoles for their daily use in production studios and on the air.

Dateq originally started in 1970 making audio equipment for DJ's and other professional users. The first mixing console series was developed in close co-operation with those end-users and became a huge success. In 1984 the Dutch broadcast market was opened to other (non-government-run) stations: this has revolutionised the market. That same year Dateq introduced the first broadcast console, based on the knowledge and state-of-the-art technology from the original mixing console designs. Since 1984 a lot has changed, but one thing remained: our philosophy to develop mixing consoles in close co-operation with the end-user while, at the same time, giving maximum priority to overall quality and serviceability.



In the modern radio station the role of the programme operator is becoming increasingly important. More and more radio programmes are fully self-supporting - the operator creating the programme in a 'live' mix by bringing together the various lines of audio input. This trend places an increased demand upon the centre-pin of the process -the on-air mixing console.

operator the highest standard at the most cost-effective price. As a VCA-controlled, modular console with a frame housing, a maximum of 16 channels, and with generous script space in the centre, the BCS50 presents every local, campus or regional station with a level of benefits normally reserved for larger stations. All modules are connected to a mother board through gold-plated connectors. The BCS50 also features Dateq's 'Dynamic Buss Design', a unique design guideline ensuring the lowest possible noise floor.



The layout of the board, accessibility of controls and general ease-of-use have become necessary features alongside the sound quality and reliability of the equipment.

The increased involvement of digital sound sources in the broadcast chain puts a further pressure on the console to offer the highest quality audio throughput as an analogue device, as well as offering the ruggedness and reliability required and expected of the equipment. The Dateq BCS50 is designed as the synergy of these critical features, offering the radio station and the console

The range of facilities offered by the BCS50 are designed to fulfil the single objective of offering the highest standard of control access and sound quality in a rugged and usable format. Its modular figuration enables the station to choose the format of operation and satisfy all requirements in one reliable and cost-effective piece of equipment.

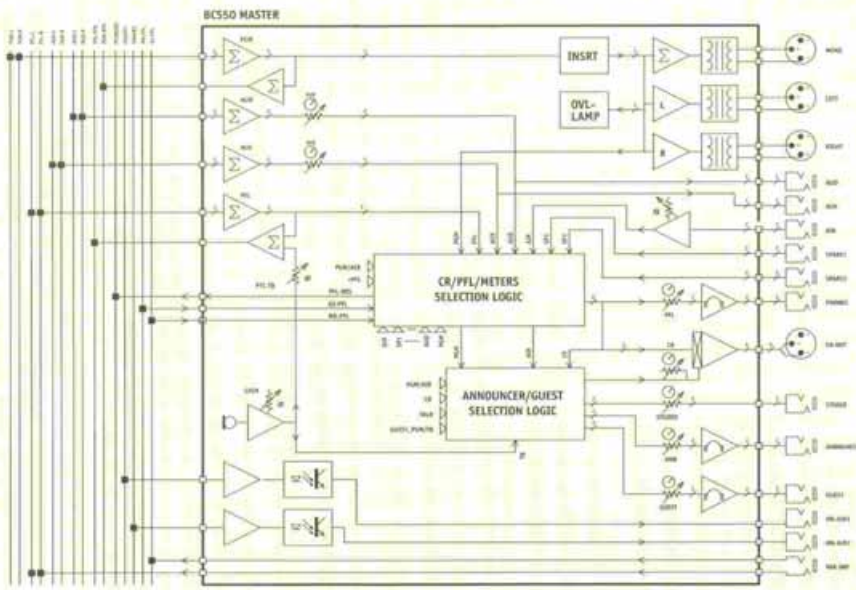


The BCS 50 on-air mixing console

Digital BCS 50

The BCS 50 has an extensive master selection.

The volume controls for both the Auxiliary and Audition signals are situated on the master.



AUX Output level control AUX-signal

METER Selects meter source: PGM or CR-signal

AUD Output level control AUD signal

AIR..PGM Switches to select the signal for C.R. output (loudspeakers)

C.R. Level control C.R. output (loudspeakers)

MUTE LED indicates when C.R.-output is muted

TALKBACK-MIC Electret mic for talkback

Apart from various monitoring functions the BCS 50 also contains a very powerful master module with separate Guest and Announcer outputs feeding up to four headphones. The talkback section also has a studio output. Two speakers can be attached at this output through the use of a separate amplifier. This means that the announcer and guest do not need to wear headphones - through the ON-AIR light indication buss the studio output is muted to avoid feedback.

All outputs can be monitored through the control room speakers by means of the multi-source selector. The selector also has three inputs (Air, Spare 1 and Spare 2) - this makes it possible to connect a tuner to the AIR input and monitor the transmitted signal off-air; the spare inputs can also be used for other sources or recorder monitoring. The master also contains some extra features to control AUTO-PFL, the meter and various talkback functions.

Master Module



GUEST Volume control GUEST-output

PGM/TB PGM-signal or TALKBACK-signal on GUEST-output.

ANN Volume control ANNOUNCER-output

STUDIO Volume control STUDIO-output

PGM/AIR These switches select the signal for the talkback output (announcer's headphones): PGM signal or AIR input.

C.R. Pressed: talkback-output follows CR-signal

PGM/AIR Automatic PGM or AIR selection when DJ-microphone is active.

+PFL PGM or AIR signal remains at -20dB during AUTO-PFL.

PFL Volume control headphones

OVERLOAD LED indicates when overload in mastersection may occur

TALK Talkback switch (engineer to announcer)



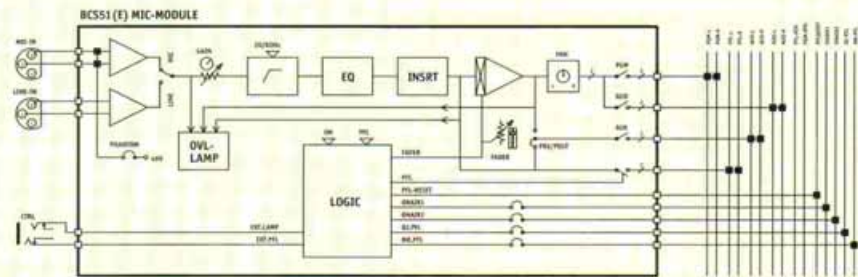
PHONES Headphone connector

Dated BCS 50

The BCS51 and 51E are mono channels with and without equalizer designed for the BCS50.

Both channels carry a microphone and line input.

Using a jumper, 48V phantom power can be activated.



The BCS 51 Mono Module is available in the following versions

BCS 51 mono mic/line module.

BCS 51E mono mic/line module with three-band equalizer.

The BCS50 has three different output busses; PGM, Audition and Auxiliary. It is possible to send each channel to one or more outputs by means of the three switches available on each channel. This feature enables the console to be simultaneously multi-functional; whilst recording through the Audition output, for example, the console can be on-air through the PGM. This attribute is useful when, for example, the operator wants to record a telephone conversation off-air or prepare a recording.

The BCS51E has a three-way equaliser with fixed frequencies. These are especially selected to work efficiently on practically all voices. The mono channels are VCA-controlled, have a low-cut switch, a three-point overload indication, pan and gain pots.

Mono Module



- MIC/LINE** Input select switch. 'Out' selects the microphone input, the 'in' position selects the (mono) line input
- GAIN** Combined input gain control for MIC and LINE input
- LOW CUT** Selects cut-off frequency of high-pass filter: 'out' 20Hz/ 'in' 80Hz
- HIGH** High gain control (BCS 51E only)
- MID** Mid gain control (BCS 51E only)
- LOW** Low gain control (BCS 51E only)
- AUX** Switch to enable the channel on the AUXiliary-bus
- AUD** Switch to enable the channel on the AUDition-bus
- PGM** Switch to enable the channel on the ProGraM-bus
- PAN** Pan control to position the mono microphone signal in the stereo soundfield
- OVERL** Overload indicator. Red LED lights when the signal is overloaded and distortion may occur
- PFL** Illuminated pre-fader-listen switch: sends the input signal to the PFL output for monitoring
- ON** Illuminated switch selects channel to master. When the FADER/SWITCH jumper on the circuit board is in the FADER position, the switch only acts as indicator



Dated
BCS 50

LINE 1/2 Input select switch. 'Out' selects the LINE 1 input, the 'in' position selects the LINE 2 input

GAIN Combined input gain control for LINE 1 and LINE 2 input

MONO Mono-switch (left and right are combined to mono).

HIGH High gain control (BCS 52E only)

MID Mid gain control (BCS 52E only)

LOW Low gain control (BCS 52E only)

AUX Switch to enable the channel on the AUXiliary-bus
AUD Switch to enable the channel on the AUDition-bus

PGM Switch to enable the channel on the ProGraM-bus

BALANCE Balance control for the left/right ratio of the stereo signal

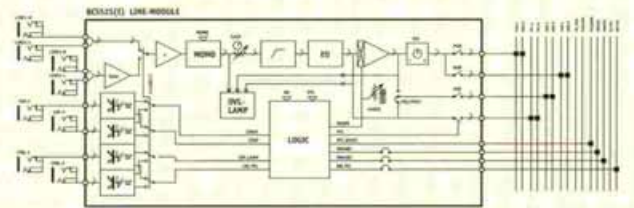
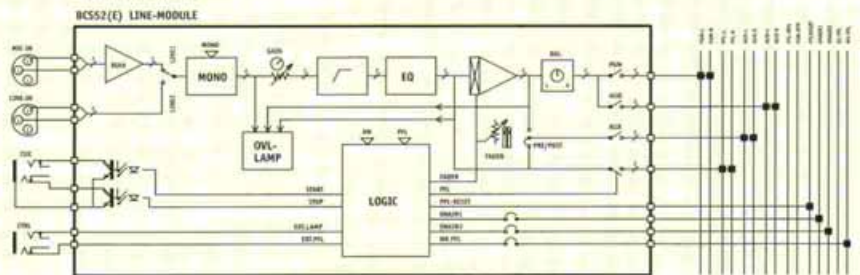
OVERL. Overload indicator. Red LED lights when the signal is overloaded and distortion may occur

PFL Illuminated pre-fader-listen switch: sends the input signal to the PFL output for monitoring

ON Illuminated switch selects channel to master. When the FADER/SWITCH jumper on the circuit board is in the FADER position, the switch only acts as indicator



The BCS 52, BCS 52 E,S and SE are the stereo channels designed for the BCS 50. Per channel 2 stereo inputs are available. As with the BCS 51 channel, these channels have the facility to select one of the two sources.



The BCS 52 Stereo Module is available in the following versions

- BCS 52 stereo line/line module.
- BCS 52S stereo line/line module with balanced inputs.
- BCS 52E stereo line/line module with three-band equalizer.
- BCS 52SE stereo line/line module with balanced inputs and three-band equalizer.

Through the cue output on each channel it is possible to remote start CD-players, jingle machines and so forth. This can be done by means of the ON button or the fader. The selection between fader and button start can be made with a jumper.

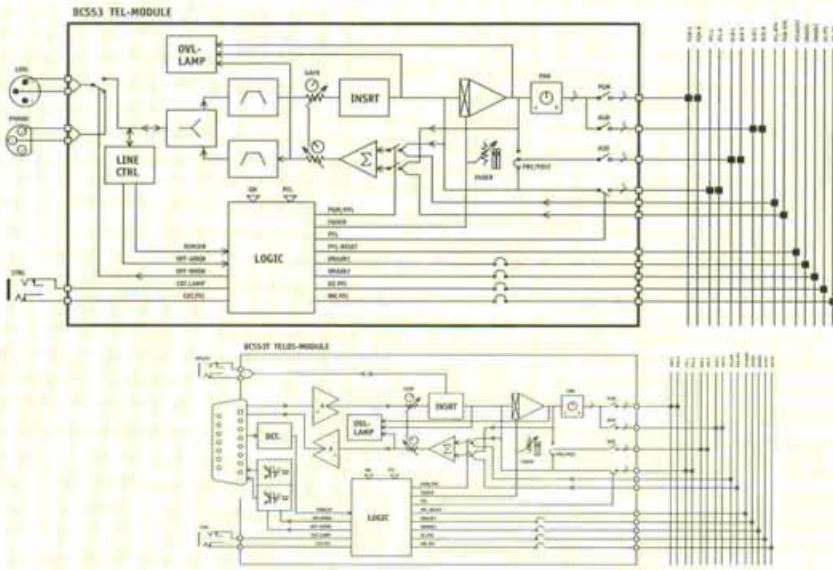
The BCS 52E has a three-way Equaliser with fixed frequencies. The BCS 52 channels are VCA-controlled and feature a mono switch (L+R), three point overload indication balance and gain pots.

Stereo Module



Digital BCS 50

The BCS 53 is a telephone channel with a built-in hybrid. This telephone module can be connected directly into the output without the use of additional hardware.



The BCS 53 Telephone Module is available in the following versions

- BCS 53 Telephone channel with built in analogue hybrid.
- BCS 53T Telephone channel with remote control for external hybrid.

As with the other advanced channel structures for the BCS 50, the BCS 53 has the facility to select one or more of the three outputs. This allows the operator to record a telephone conversation whilst on-air. The BCS 53 works on the 'mix-minus' principle, requiring no clean feeds. This means that there is effectively no limitation to the amount of telephone interfaces in the console. The gain adjust pot on the BCS 53 channel is the effective combination of gain and return - more gain automatically means less return. In this case, it also means the virtual elimination of feedback. The BCS 53 is VCA-controlled, has a telephone on (TEL. ON) switch, a ringer indication and three point overload indication.



GAIN Input-gain/balance control for the incoming telephone signal. Turning clockwise increases the input gain and simultaneously decreases the outgoing return signal to the telephone line

RINGER LED blinks when a call comes through (replaces the normal telephone ringer)

ADJUST Fine tuning control (R-balance) to adjust the BCS 50 hybrid circuit to the telephone line impedance. You adjust this control for a minimal coloration of program signal during the telephone conversation

TEL.ON Pushbutton enables or disables the telephone-hybrid. When disabled the telephone-line is connected to the PHONE-jack

AUX Switch to enable the channel on the Auxiliary-bus

AUD Switch to enable the channel on the AUDition-bus

PGM Switch to enable the channel on the ProGram-bus

PAN Pan control to position the telephone signal in the stereo soundfield.

OVERL Overload indicator. Red LED lights when the signal is overloaded and distortion may occur

PFL Illuminated pre-fader-listen switch: sends the input signal to the PFL output for monitoring. Pressing the switch automatically activates the telephone line

ON Illuminated switch selects channel to master. When the FADER/SWITCH jumper on the circuit board is in the FADER position, the switch only acts as indicator



Telephone Module

Dated
BCS 50

The BCS 63 Sub master channel is designed for those situations which require a master fader or a built in limiter function.



LED Brickwall indication

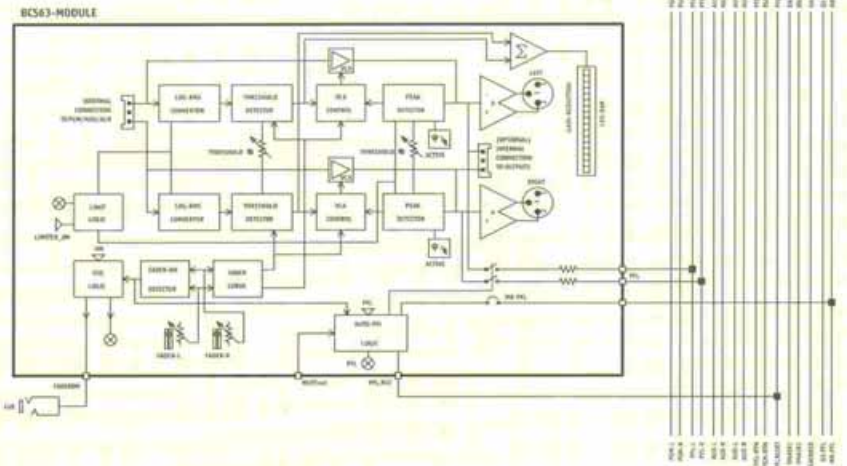
Gain reduction display

Limiter ON/OFF switch

PFL Illuminated pre-fader-listen switch: sends the input signal to the PFL output for monitoring

ON Illuminated switch which indicates that master channel is activated

MASTERFADERS
VCA controlled fader controls output signal



The BCS 63 master fader channel can be used for volumecontrol of the AUD, AUX or PGM signals and has a built in compressor-limiterfunction to control the outgoing signal and protect the connected equipment against overload. The built in softknee feed forward limiter has a compression threshold range from -12 to +8 dBm. Above this level it will operate as a brick wall limiter. The limiter threshold range can be set from 0 to +8dBm. The gainreduction range of 20dB for both left and right channel is displayed on a single LED-bar display. The separate master faders for both left and right channels are VCA controlled. For multipurpose use of the broadcast console the limiterfunction is equipped with independent balanced outputs and can be switched on and off. A pre-emphasis option is available. The BCS 63 sub master channel should be placed next to the main master section of the BCS 50 broadcast console.

Sub master channel



The BCS 50 supports a clear and practical meter bridge. The mounted meters follow the multisource selection, ensuring that the signal monitored is the signal on the bridge. A switch at the master section allows the operator to send the PGM signal to the meters continuously.



Meter bridges

For the BCS 50 analogue VU meters as well as 50 segments LED program meters with peak hold are available.

BCS 68-2 30 segment LED meters

BCS 68-2 30 segments horizontal mounted LED meters may be used if an extra pair of meters is needed. The meters easily can be connected to different incoming or outgoing signals. For instance, in a production room where the actual equipment is placed out of sight or to monitor the Air and PFL signals in the main studio.

BCS 61 DCF clock/timer module

The clock-timer module is available as an extra feature which can be mounted at the left side of the main meters. The BCS 61 Clock module uses the atomic clock-time as transmitted by the DCF-77 radiostation in Mainflingen, Germany. In addition to the unsurpassed accuracy, the clock automatically switches to Daylight Savings Time (and back) and utilises any "leap seconds" transmitted. The timer may be used in count-up, count-down, count-up/down and end of program mode and can be set with the supplied remote control.



Datedq BCS 50



INPUTS (with VCA-control)

MIC	electronically balanced, 300 Ohm (nominal)
level	-60 ... +14 dB gain control
noise	<-127 dB
LINE	unbalanced/electronically balanced, 10 kOhm (nominal)
level	-14 ... +26 dB gain control
noise	<-80 dB
INSERT	unbalanced, 10 kOhm (nominal)
level	0 dB
AIR	unbalanced, 10 kOhm (nominal)
level	-20 ... +6 dB trimmer
SPARE1, SPARE2	unbalanced, 10kOhm (nominal)
level	0 dB fixed
TALKBACK IN	unbalanced, 10kOhm (nominal)
level	0 dB fixed

OUTPUTS

PGM left/right/mono	transformer balanced
level/impedance	+6 dBm @ 600 Ohm
PGM 1/2/3	unbalanced
level/impedance	0 dBm @ 600 Ohm
AUX, AUD	unbalanced
level/impedance	0 dBm @ 600 Ohm
CRM	unbalanced
level/impedance	0 dBm @ 600 Ohm
ANN, GUEST	stereo headphone, variable
level/impedance	2x 1 W @ 4 Ohm
STUDIO	unbalanced, variable
level/impedance	0 dBm @ 600 Ohm

LOW CUT FILTERS

MIC	12 dB/octave
-3 dB point	switchable between 20 or 80 Hz
LINE	12 dB/octave
-3 dB point	20 Hz, fixed

EQUALIZER ('E' and 'GE' version only)

MIC/LINE mono		
High	+/-12 dB @ 12 kHz, shelving	
Mid	+/-16 dB @ 1 kHz, bell	
Low	+/-16 dB @ 60 Hz, shelving	
LINE stereo		
High	+/- 12 dB @ 12 kHz, shelving	
Mid	+/- 16 dB @ 1.3 kHz, bell	
Low	+/- 16 dB @ 60 Hz, shelving	

GENERAL

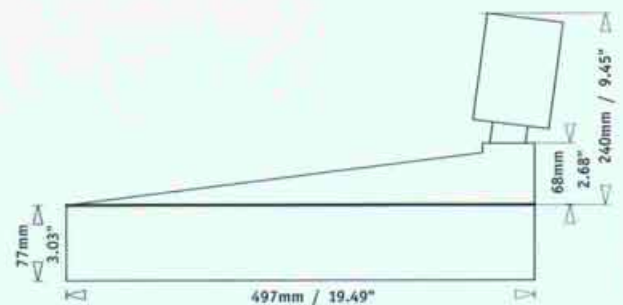
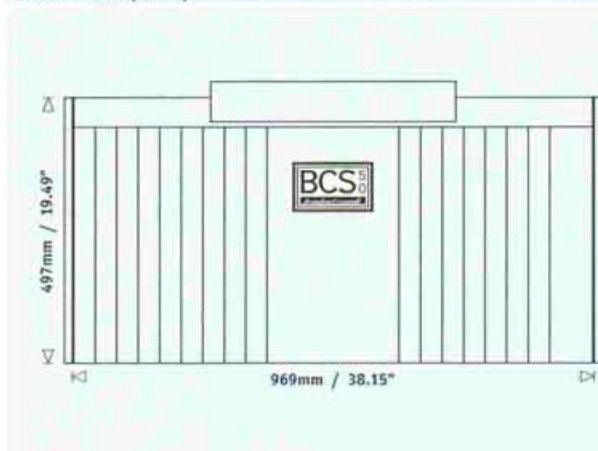
Frequency response		
Mic to master	20 Hz - 30 kHz, +0/-0.5 dB	
Rest to master	20 Hz - 30 kHz, +0/-0.5 dB	
THD + IM	0.05% nominal	
Cross-talk L <-> R	<-73 dB @ 1 kHz	
Cross-talk 1 <-> 2	<-80 dB @ 1 kHz	
Cross-talk channel <-> channel	<-80 dB @ 1 kHz	
Noise	<-100 dB (inputs OFF)	
	<-80 dB (inputs ON)	
Overload indication	+ 18dB	

CONTROL I/O (tally)

inputs	pulldown (12V/10 mA)
Remote	2 VDC, 1 VA
ON AIR outputs	opto-coupler, 12VDC, 1VA
Power supply	internal supply unit, 100VA, 230VAC/115VAC selectable

* DATEQ Audio Technologies reserves the right to amend specifications without notice in line with technological developments. Reference level 0 dB = 0.775 V
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MEASUREMENTS (in mm)



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Technical Specifications