



DC2012 Commentary Box

Instruction Manual

Preliminary



Overview

The DC2012 is the next progression from our highly successful DC99-II commentary box. Designed from the ground up, the unit has a sturdy two piece steel chassis with custom manufactured protective handles. Facilities have been greatly improved with the highest quality audio a prime objective.

The DC2012 has a paper white liquid crystal display with six control push buttons to facilitate intuitive adjustment of the units various settings. It may be easily locked to prevent operator adjustment.

Including three top quality microphone amplifiers with built in limiters, separate line level microphone outputs with a mixed output facility, four lazy talkback outputs and a total of ten available monitoring inputs we feel the DC2012 is a very flexible commentary box indeed.

Microphone Amplifiers

The DC2012 includes three digitally controlled microphone amplifiers with magnificently low distortion and really natural sounding audio amplification. Microphone amplifier gain is adjustable in 1dB steps from +15dB to +70dB or may be set to +5dB. Each microphone amplifier has an individual XLR electronically balanced output (transformer output available as an option). Each line level microphone output also has a built in limiter with adjustable threshold from off to +20dBm. There is also a mixed output available with its own limiter and selectable comm. A/Comm.B/Guest mix.



The unit has four 'Lazy' outputs (redirected audio) which silently take the commentator microphone off the air and re-directs the microphone audio to any of the four outputs. These outputs are common to both commentators with each commentator having four individual buttons. These outputs are electronically balanced (transformer output available as an option).

Each commentator has a 'Mic Live' switch which can be programmed to just illuminate when the mic is taken off air (by pressing the 'Lazy talkback' buttons) or as a momentary 'Mic cut' (or cough) switch or as a Mic cut with toggle on and off. Setting depends on how much you trust your commentators!

48 volt phantom power is available for each microphone amplifier and selection is shown on front panel red LEDs for each of the three inputs.

Headphone Monitoring

Each commentator has six common audio monitoring inputs with volume controls designated Talkback, Programme, Aux 1, Aux 2, Aux 3, Aux 4. There is also an additional feed of sidetone (himself) and another for the other commentator plus the guest microphone. Additionally there are four more monitoring inputs, available on the multiway input, which may be selected to commentator A or commentator B replacing the first four inputs enabling the two commentators to work to different trucks or on different productions.

Every input may be switched via individual user adjustable mini toggle switches to left, right or both ears of the headphones.

Headphone monitoring may be a 5 pin XLR connection with both microphone and headset connection or 3 pin XLR microphone input with TRS jack stereo headset connection. This jack socket is suitable for use with both ¼ inch stereo and 316 (PO) jacks. The guest has his own headphone feed with a mix derived from commentator A's mix but with his own overall volume control. Individual commentator A feeds may be switched away from the guest so if just, for example, a programme feed is required for the guest.

All audio monitoring inputs are transformer isolated as standard and this is normally sufficient to prevent any 'Earth loop' problems. Output transformers are available as an option.

Oh, and the headphone amplifiers go loud, capable of 500mW of audio with low distortion. Please ensure you have audio level limited head sets if required.

Other Facilities

The rear panel MIL26 connector carries the four separate additional audio inputs or may be configured to carry four common audio inputs to the two commentators. Two commentator outputs and a lazy output (or two lazy outputs on 8 pair cable) are also available so, on less complicated productions, it is possible to connect the DC2012 with just one multicore cable.

The DC2012 has a built in tone generator which can be set to identify any (or all) of the audio outputs. Perfect for setup and identification of the audio channels with a different tone identification on each output. Lots of lights flash when it's on so it's not easy to forget. Commentator A output breaks once every three seconds. Commentator B outputs twice, Guest three times and the mixed output is continuous. Tone frequency may be set at 400Hz, 1kHz or 2kHz to avoid confusion with other tone sources.

Expansion

The DC2012 has been designed with remote control in mind. A remote unit is currently in development and may be retrofitted to the comms box. We have more facilities in mind and for this reason the data and utility connectors are currently not committed.

Comms box setup

All user settings on the comms box are controlled by the LCD display and its associated buttons. Settings may be protected by switching the rear panel toggle switch to 'lock'. When switched to 'lock' the display will automatically switch to the top menu allowing only adjustment of the guest volume. All other controls will be disabled.

Setup

From the 'switch on' menu select 'Setup'

Mic Gains

This allows adjustment of individual microphone amplifier gains from +5dB to +70dB. Press the button next to the mic amp you wish to adjust. The cursor arrows will move to show your selection. Press the up/down buttons to adjust to the required gain. Either press the button quickly to adjust in 1dB steps or hold the button down to adjust at speed. Press 'back' to return to the top menu.

Phantom

Each mic amp is shown with phantom on or off. Press the associated button to toggle phantom on that channel on or off. Front panel LEDs will illuminate to indicate status with phantom on.

Limiters

Each microphone amplifier has its own limiter. To adjust the limit threshold select the required microphone to adjust, the cursor will move to show the selection. Press up or down to adjust the threshold to suit. If no limiter is required in circuit then adjust the limiter to its maximum threshold (+24dB).

Mixed O/P

This allows selection of each microphone to the mixed output. It is important that if a mic amp is not in use that it is deselected from the mixed output as otherwise the inevitable 'open mic amp' hiss will be added to the mix. Also please note that if the guest's mic is to be added to commentator A and B's listens (sidetone) then it must be selected to the mixed output.

Back

This returns to the previous menu.

More

This selects the More menu as below.

More Menu

Tone Gen

This generates tone with interrupt identification on each line at 0dbV.

Identifies as follows:

Commentator A :	1 break every 3 seconds
Commentator B :	2 breaks every 3 seconds
Guest :	3 breaks every 3 seconds
Mix:	Continuous tone.

When Tone Gen is selected the comms box is effectively disabled apart from tone generation.

To signal this all the lazy keys will flash alternate red and green. Just press 'Off and back' to return to normal operation.

Each output may be selected to tone on or tone off. Frequency may be changed between 1kHz, 2kHz and 400Hz to enable differentiation from other tone sources.

TB Setup

Gain

Gain may be adjusted up or down on the talkback output circuits. Useful for sports such as snooker where the commentary may be quiet but a higher level may be useful for the talkback outputs. Gain range is +-12dB.

Key off colour

The eight lazy keys are normally green for off and red for active. If 'key off colour' is set to 'clear' then the buttons will not be illuminated at all when not active. This may be useful if the lazy button lights are a distraction.

Mic Live keys

The mic live A and mic live B keys may be used as just 'on air' indicators, or as momentary or latching 'cough' keys where pressing the relevant button will take the commentator off air (muted mic amp).

When selected to off the keys will do nothing apart from indicating off air when a lazy key is pressed.

Momentary will take the commentator off air only while the key is pressed. Latching will switch off air and remain off air until the key is pressed again.

Comm Inputs

Each commentators audio listen inputs designated Talkback, Prog, Aux1 and Aux2 may be individually selected to be sourced either from the XLR inputs or the first four of the multiway pairs. This enables each commentator to hear different talkback etc. and so the commentary box may be effectively used to work with two different trucks or productions. Select which commentator you wish to set and toggle the inputs between XLR or Multi.

Guest Listen

The guest headphone output hears the same mix as commentator A. Each of comm A feeds may be switched on or off to the guest. If for example you just wish the guest to hear just programme and the commentators then just switch these feeds on and the others to off. The first four feeds come up on the first menu page. Press more for the second four feeds. Overall level adjustment is available on the main (top) menu.

More

This selects the next set of menus, currently just Mix limiter. This is used to set the limiter threshold for the mixed output. This limiter is inserted after the individual commentator limiters. If not required just set the threshold to +24dB.

Please note that by popular request these Mil 26 pinouts have been altered as from DC2012 serial number 9692 to match the DC99-II Commentary box.

Mil 26 connector pinout.

Male connector fitted to rear of comms box.

PIN	H/C/Sc	PAIR	FUNCTION
A	H	1	Comm A out
B	C		
T	S		
C	H	2	Comm B out
D	C		
U	S		
E	H	3	Director lazy out
F	C		
V	S		
G	H	4	Aux 1 lazy out
H	C		
W	S		
J	H	5	Input talkback
K	C		
X	S		
L	H	6	Input Prog
M	C		
Y	S		
N	H	7	Input aux 1
P	C		
Z	S		
R	H	8	Input Aux 2
S	C		
a	S		
b			not used
c			not used

**Headset
XLR**

PIN	FUNCTION	NOTES
1	Headset mic live	
2	Headset mic neutral	For unbalanced mic connect mic earth to Both pins 2 and 3 with earpiece earths
3	Headset Earth	
4	Right earpiece live	For balanced headset mic connect screen along with both earpiece earths to pin3
5	Left earpiece live	

