FW6010T
6 channel four-wire box with comprehensive IFB facilities

by

CTP Systems

Product warranty

This unit is guaranteed for a period of one year from dispatch of the goods. This guarantee is a return to base warranty. In the unlikely event of a fault the goods should be returned to CTP Systems in the UK or your local dealer.

This equipment is CE marked and conforms to the following directives:

Low Voltage Directive: EN60065
Emissions: EN55103.1
Immunity: EN55103.2

WEEE

CTP Systems are registered for Business to Business sales of WEEE in the UK. Our registration number is WEE/DF0509VR.

RoHS

The product conforms to the RoHS Directive 2002/95/EC for restriction of the use of hazardous substances in electrical and electronic equipment.

This unit was designed and manufactured in the UK by CTP Systems Limited, Unit 4, Clinton Business Centre, Lodge Road, Staplehurst, Kent TN12 0QF.
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Four wire unit type FW6010T

The FW6010T is a six channel four wire box with many extra features. Each channel has transformer isolation, both in and out, along with flexible IFB facilities. The unit is DSP controlled.

Microphone/Headset/Speaker

The FW6010T supports several combinations of microphone and headset. These may be selected using the front panel speaker/stalkmic/headset switch. LEDs display the current selection. An internal dip switch allows a pre-selected combination to be locked making switching unavailable to the operator.
Switch settings are retained in the unit's memory.
Whichever combination is selected, the unit always has headphone outputs available on the headphone jack and on the 5 pin XLR headset.
Separate gain controls are available for the stalk mic and headset mic inputs. The unit is supplied with the stalk mic gain set to +60dB and the headset mic input set to +40dB.
The unit has an internal limiter supplied preset to soft limit at +6dBu.

Both the stalk mic and headset mic inputs are supplied set up for dynamic microphones but internal jumper switches allow use of either or both with phantom powered mics (48 volt). Additionally an internal jumper connector may be used to configure the unit to use an unbalanced headset mic.

The unit has loudspeaker remote cut and remote dim inputs and outputs on the Footswitch and Utility D15 connector.

Four wire inputs.

To use the four wire inputs the DIP switches on the rear marked 'XLR Input' should be selected to 4 wire and the ifbmon switches should be off.
Inputs will now be available on the volume controls and the green 'audio' LEDs will illuminate when any input signal exceeds -18dBu. The audio LED will extinguish eight seconds after audio input has ceased.
The ifbmon switches may be locked by setting the rear panel Dip switch to 'IFB mon Lock'.
The unit will retain the current settings until the IFB monitoring is unlocked and the ifbmon buttons are pressed.
The four wire inputs will 'dim' in level when the relevant channel talk key is pressed. This may be defeated on each individual channel using internal dip switches.

Talk Outputs

The FW6010T has six keyed outputs and one mic line Out. The line output is always active and may be used as an open talkback source.

The keyed outputs may be activated either momentarily by pressing the talk key down or latched up. The latch position of the switches may be defeated by selecting the rear DIP switch to latch disable. The unit will then only operate in the momentary (down) position.

The talk keys may be individually operated by a remote footswitch or push button switch by wiring switch contacts to the Footswitch and Utility D15 connector.

The red talk LED will illuminate when the key is active or when the remote footswitch inputs are active.

IFB Facilities

The FW6010T has two levels of IFB operation.

1. An IFB source may be connected to the four wire XLR inputs providing a discreet IFB source for each channel.

2. Four balanced line level audio inputs on the 'Switchable IFB Inputs' D9 connector. Each of these inputs may be delegated to any or all of the IFB outputs.

IFB sources 1 and 2 may be selected at the same time in which case the two IFB sources will be mixed together to the channel output.

<u>Using level 1 (XLR input) IFBs</u>.

Select the required input to IFB using the rear panel DIP switch. Any audio input on that channel will now be on the corresponding XLR output. When talk is pressed the IFB input audio will be dimmed or muted and the operator's microphone will instead be heard on the channel output.

The IFB input may be monitored by pressing the ifbmon button. The audio led will illuminate when IFB input audio is present.

Using level 2 (D9 input) IFBs

Select the required IFB output assign rotary switch to the desired D9 connector IFB input number to be delegated to the channel. Each D9 connector IFB input may be assigned to any or all four wire outputs.
The IFB input may be monitored by pressing the ifbmon button. The audio led will illuminate when IFB input audio is present.
When using level 2 IFB inputs the four wire inputs are still available for use, unlike with level 1 IFBs. The IFB input and the four wire input monitoring may be toggled using the ifbmon switch.

GPI outputs

The units has two relays built in for triggering external events such as switching RT units to TX. The relays each have isolated contacts and may be programmed to be active on any key or combination of keys. The contacts short when the assigned keys are pressed.

How to assign the relays:

Make sure “monitor lock’ is off.
Switch off all ifbmon buttons.
Press and hold the spkr/mic/headset button for around 8 seconds until the ifbmon buttons flash twice.
Any channels assigned to relay 1 now have their ifbmon buttons illuminated.
Toggle them on and off as required by pressing the ifbmoon button.
Press spkr/mic/headset button again for one second.
Ifbmon buttons will flash twice again.
Now channels assigned to Relay 2 have their ifbmon buttons illuminated.
Toggle on/off as required.
Press spkr/mic/headset button again for one second.
The ifbmon buttons will flash twice.
Ensure spk/mic/headset settings are as required.

Remote dim/cut

The FW6010T may have it’s speaker cut or dimmed by external means and also may control another unit’s cut/dim functions.
The cut and dim inputs may be actioned by shorting the relevant pin to 0 volts.
The cut and dim outputs are open collector and may be used to short an external signal or relay to 0 volts. Please note maximum rating of the open collector output is 50 volts DC at 50mA.
Application or a higher voltage or current will cause permanent damage to the output transistors.

Internal functions/options

Important. Before making any internal adjustments please ensure the unit is disconnected from the mains. When replacing the lid ensure the insulation pad covers the power supply.

Microphone Settings
Jumpers towards the right of the PCB are marked for phantom on, phantom off and unbalanced input.
Looking from the front the stalk mic jumpers are to the left and the headset mic to the right.

DIP Switch settings
(switch on right of PCB).

1 - On to enable four wire input dim channel 1. Off to disable.
2 - On to enable four wire input dim channel 2. Off to disable.
3 - On to enable four wire input dim channel 3. Off to disable.
4 - On to enable four wire input dim channel 4. Off to disable.
5 - On to enable four wire input dim channel 5. Off to disable.
6 - On to enable four wire input dim channel 6. Off to disable.

7 - Off to enable normal operation of the speaker/stalkmic/headset switch.
On to lock the current setting.

8 - When switched off the IFB audio on the four wire outputs will be dimmed on talk. If switched to on then the IFB audio will be cut.

Switchable IFB inputs D9 connector

Pin	Function
1	IFB1 Live
2	IFB1 Neutral
3	IFB2 Live
4	IFB2 Neutral
5	IFB3 Live
6	IFB3 Neutral
7	IFB4 Live
8	IFB4 Neutral
9	0v

Footswitch & Utility connector

Pin	Function
1	talk key 1
2	talk key 2
3	talk key 3
4	talk key 4
5	talk key 5
6	talk key 6
7	remote speaker dim input
8	remote speaker cut input
9	Speaker dim output (open collector)
10	Speaker cut output (open collector)
11	Relay 1 contact A
12	Relay 1 contact B
13	Relay 2 contact A
14	Relay 2 contact B
15	Ground / 0v

Headset connector for balance microphone (unbal jumper not shorted)

Pin	Function
1	mic live
2	mic neutral
3	mic and earphone earth
4	earphone left
5	earphone right.

Headset connector for unbalance microphone (unbal jumper shorted)

Pin	Function
1	mic live
2	mic earth
3	earphone earth
4	earphone left
5	earphone right.