

The Gems Gaze-Control unit provides simple automatic variable head movements for the Gems series of poseable mannequins.

It is a replacement for the standard neck and no modifications are needed for it to be fitted.

The Gaze-Control unit allows any figures in an existing display to be easily updated with virtually no disturbance to their setting.

At the simplest the only connection required is a pair of thin wires for the low voltage power supply to the unit, such wires can be easily tucked away out of sight.

#### BEHAVIOURS

When fitted to a figure it allows two lifelike behaviours.

##### Standard Behaviour -

Rotation of the head from side to side at random intervals and degree of turn.

The direction of the head's gaze is adjustable from Left to Right and the random motions are made about the preset direction. Speed of movement is presettable and the interval between turns and the degree of turn are scaleable to allow the reproduction of all behaviours from motionless through barely perceptible and graceful to agitated.

##### Triggered Behaviour -

Whilst operating in Standard Behaviour mode the head can be triggered to look in either of two presettable directions. This is done by activating one of the two trigger inputs. These inputs are suitable for connecting to pressure pads, light-beam equipment and infra-red motion detectors etc. consequently the figure can respond to the presence of people.

For each input an auxiliary output is activated when the head has turned to its preset position, this allows triggering of external equipment such as voice playback for announcements, welcoming messages, greetings etc..

When the head turns to a preset direction it always does so at full-speed, regardless of the setting of the Speed-control knob. Periodic auto triggering can be set for Gaze-1, see below.

#### OPERATION

Once set up the Gaze-Control needs nothing more than the Low-voltage-power-supply to be turned on or plugged into the Mains when it is desired to have the figure operational.

So that it is not running while people are not around it is suggested that it powered through a Passive-infra-red-controller available as

an optional extra. The Passive-infra-red-controller will sense when people are near and turn on the power to the Gaze-Control and when people leave it will turn off the power again. Also available as an optional extra is a Passive-infra-red-controller operated Trigger unit which can be plugged into Trig-1 or Trig-2, see below.

## CONTROLS and CONNECTIONS

### Controls -

- Speed - Sets the speed of movement.  
Turn the control fully clockwise for Fast, anti-clockwise reduces the speed and fully anticlockwise is for Stopped.  
Start with speed set to fast and reduce as desired.
- Gaze - Clockwise turns the head to the Right  
Anti-clockwise turns the head to the Left.  
Start with the control pointing straight up, this corresponds to the figure looking straight ahead.
- Frequency - Fully clockwise sets a quarter of a second delay between moves, fully anti-clockwise a maximum of about one minute between moves, the actual delay will be a random time between a quarter of a second and the setting of the Frequency control.  
Start with this control fully clockwise and reduce as desired.
- Turn - Fully clockwise gives large turns, and fully anti-clockwise is for stopped. The actual amount of turn will be a random amount inbetween no turn and the setting of the Turn control.  
Start with this control turned fully clockwise and reduce as desired.
- Gaze-1 - This control works similarly to the Gaze control but sets the position the head will go to when Trigger input 1 is activated.  
Start with this control set fully clockwise or fully anticlockwise.  
Trigger input 1 has priority over trigger input 2.  
If Trigger input 1 is closed on powerup then auto-trigger is set and the head will go to the Gaze-1 position about every eight moves.
- Gaze-2 - This control works similarly to the Gaze control but sets the position the head will go to when Trigger input 2 is activated.  
Start with this control set fully anti-clockwise or fully clockwise.  
Trigger input 1 has priority over trigger input 2.

Note new settings of the controls are only taken into account from the start of a new movement, if Speed or Frequency were turned down then this may take some time, (up to two minutes). To avoid waiting for the new settings to be read simply unplug

the power connector from the Gaze-Control box wait 5 seconds and plug it back in, this will start everything off afresh with the new settings.

#### Connections -

- Power - The lead from the Low Voltage Power Supply Unit plugs into this socket.  
12Vdc, 200mA from the double insulated low voltage power supply unit, (9 to 16 Vdc unregulated).  
2.1mm power connector, centre pin positive.
- Head - The lead from the Neck unit plugs in here.  
Note there is a bump on the plug which matches the cutout on the bottom of socket.  
The lead from the Neck unit has an extra connector near the top, this connector is for expansion units.
- Trig 1 - Trigger Input 1, when activated the Head goes to the position set by the Gaze-1 control.  
Takes a 3.5mm mono-jack-plug,  
requires a No-Volt switch closure,  
eg a simple push switch or Pressure-Pad.  
(No-Volt switch to be rated above 12Vdc and 100 mA).
- Aux 1 - Auxiliary Output 1, takes a 3.5mm mono-jack-plug  
When the Head has reached the position set by the Gaze-1 control an isolated switch will be closed for 5 seconds while the Head remains stationery.  
This can be used to trigger other equipment.  
Relay contacts rated at 30 V and 1A maximum,  
isolation 50V maximum. (ie a No-Volt switch).
- Trig 2 - Trigger Input 2, when activated the Head goes to the position set by the Gaze-2 control.  
Takes a 3.5mm mono-jack-plug,  
requires a No-Volt switch closure,  
eg a simple push switch or Pressure-Pad.  
(No-Volt switch to be rated above 12Vdc and 100 mA)
- Aux 2 - Auxiliary Output 2, takes a 3.5mm mono-jack-plug  
When the Head has reached the position set by the Gaze-2 control an isolated switch will be closed for 5 seconds while the Head remains stationery.  
This can be used to trigger other equipment.  
Relay contacts rated at 30 V and 1A maximum,  
isolation 50V maximum. (ie a No-Volt switch).

#### ASSEMBLY

The unit replaces the standard neck post. The cable from the head unit should be fed down the hole in the body and arranged so that it sits in the cut-out in the clamping plate. Make sure the cable is not trapped as the securing nut is tightened.

## SETUP

- Mount the Neck-post on the body of the figure as above [ASSEMBLY].
- Connect the Control-box, Neck-post and Power-supply as above [Connections].
- Turn the 'Gaze' knob so it is pointing straight up, this corresponds to the figure looking straight ahead.
- Turn the 'Turn' knob fully anticlockwise.
- Wait for the Neck-unit to rotate to its home position.
- Turn off the power, (unplug the power from the Control-box).
- Place the head on the Neck-post so it is looking forwards.
- Turn the 'Gaze' knob so corresponds to the preferred gaze direction.
- Turn the 'Turn' knob to the required level of actuation.
- Turn on the power and watch the head as it moves.
- Adjust the 'Speed', 'Turn', 'Frequency' and 'Gaze' controls as required.