

advanced joystick remote





DX2-REM550/REM551 From software v2.03 onwards

This quick start guide does not replace the full installation manual of the AJR.



Do not install, maintain, or operate the AJR before you have read and understood the DX System Manual, the AJR installation manual and the installation manuals of all other DX modules that are present in your DX System. Follow the instructions of the manuals, otherwise injury or damage can result.



Introduction to the DX2 AJR

The DX2 AJR is the frontrunner in a new generation of DX Modules that sets a new standard for Dynamic and the powerchair industry.

The DX2 AJR is a fully DX-compatible Master Remote that offers many new features and enhancements, including:

- Large and clear colour LCD screen
- Easy-to-follow menu setup, icon-based so no translation required
- Programmable function button that gives direct access to chair functions
- Access to joystick-only mouse control including 'click'
- Refined and profiled 4Q control makes joystick-only mode easy to operate
- Low force joystick: typical less than 2.2 N
- Field replaceable drop-in joystick
- Left and right handed
 mounting/operation
- Cables can be routed out the left hand side, right hand side, or both
- Serial number is visible when mounted
- 3 Jack sockets increase flexibility for connecting external switches
- 24-hour clock
- Full range of audible feedback options, including reversing beeper



Specifications

Operating voltage range	18V – 32V DC (nom. 24V)						
Charger rating	max 12A RMS Continuous, limited by DXBUS rating						
Quiescent Current	< 0.25mA C	off, typically 2	200mA On				
Material	Injection-moulded plastic						
Protection Rating	IPx4						
Shipping Weight	650g (excluding packing material)						
Operating Forces	Less than 80	00g					
	Min	Nominal	Units				
Tube mount diameter	15 (5/8)	19 (3/4)	22 (7/8)	mm (in)			
Operating Temperature Range	-25 (-13)	3) 50 (122)				25 (-13) 50 (122) °C (°F)	
Storage Temperature Range	-40 (-40) 70 (158) °C						
Operating Humidity Range	0		95	%RH			

Mounting

The mounting of the DX2 AJR is backwards compatible with the SHARK product range. The Remote can be mounted on either side of the wheelchair to accommodate left-handed or right-handed users.

Mount the DX2 AJR on a flat plate of 54 mm (2.12") width, or on a tube with an outside diameter between 15 mm (5/8") and 22 mm (7/8"). It is possible to use either of the two mounting channels for tube mounting.



Tighten the M5 screws to a torque of approximately 3 Nm (27 lbf in).

Warnings:
- For safe installation, select a screw length that protrudes between 7mm and 11mm into the case. Do not over-tighten.
- All DX2 AJR variants are not waterproof. Make sure to protect the AJR from water entry if necessary.
- Do not operate the DX2 AJR if the cover is not installed correctly. The cover is an essential part of the water entry protection.
Note:
If external switches are fitted, make sure that there is enough room for the cables of the switches. Take care that the cables cannot be trapped or damaged.

Jack sockets for external connections

The AJR has three jack sockets for the connection of external switches.



The On / Off switch

- 2-pole jack input
- Works identical to the on/off button on the AJR keypad
- Normally open operation

Universal Control Inputs (UCI 1/UCI 2)

- 2-pole jack input
- UCI 1 acts as the Drive Mode selection button
- UCI 2 acts as the Accessory Mode selection button
- UCI 1 and 2 both can activate the alarm and the horn
- The Drive Mode and Accessory buttons on the AJR will continue to work normally if an external switch is connected to a UCI input.

Resistance (Ω)	Function
0 (short circuit)	Up
150	Down
300	Alarm – Activates ECU1 channel 7
450	Horn
> 550 (open circuit)	No operation (normally open)

If there is only one UCI switch available: UCI1 can control Drive Mode as well as Accessory mode when the **Jack Socket Operation** parameter for UCI 1 (see manual section 4.1.1.5) has the value ' Drive-Accy Up + Drive-Accy Down + Alarm + Horn'.



DX2 AJR Operation



*The function of the plus/minus button and the up/down button can be swapped with the **Left-Right Mounting** parameter. See the programming chapter of the AJR manual for a detailed description of all AJR parameters).

Variant	Properties
DX2-REM550	 7 buttons
DX2-REM551	 5 buttons



Menu Navigation Modes

Standard Mode



In Standard Mode, the various menus are navigated using the Drive Profile button, Select Accessory button, and the Multi-Function button. Some functions can be accessed directly with other buttons (for example the indicators).



Drive Profile Select

Use this button to navigate up and down through the available drive profiles.



Accessory Mode Select

Use this button to move through the available accessory modes. The first touch of Accessory Mode Select button, up or down, always takes you to seating menu. The following accessory modes are available if fitted.

iPortal2 – use Remote's

joystick to operate iOS

OBP – change screen

clock visibility.

brightness, clock time and

devices and mouse on PC.

ECU1 – activate channels on

an Environmental Control Unit



Actuators – activate actuators to move position of seating, leg rests etc.



Lights – activate lights and indicators.



ECU2 - activate channels on a second Environmental Control Unit.

Multi-Function

The Function Button allows hot key access to favourite functions during normal operation. Common uses include fine tuning of speed within a drive profile, or instant access to one or two favourite seating functions e.g. tilt or recline. The function button allows simultaneous operation with drive commands so users can adjust seat positions whilst driving.

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The joystick is used in some modes to operate within that mode. For example, in Actuator Mode, the joystick operates a selected actuator.



Note:

The orientation of the joystick depends on the value of the Accessory Menu Navigation, Invert Joystick Axis and Rotate Joystick parameters.

Attendant Mode



Attendant mode is selected when the attendant switch on the attendant control is switched to local. When the attendant mode is selected, the attendant icon will be shown on the screen.

During attendant mode all menu navigation is identical to standard mode (all buttons on the AJR will work the same), with the only difference that the joystick navigation (for example when using actuators) is taken over by the attendant joystick.

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Note:

If the Drive Profile selection buttons on the AJR are pressed during attendant mode, the AJR will return to Drive Mode (if it currently is not in Drive Mode), it will not change the Drive Profile. The attendant Drive Profile will stay active until the attendant releases control back to the user.

Joystick-only Mode (4Q)



Four-quadrant mode (4Q) is a joystick-only mode for navigating the menus. All menus are accessible by deflecting the joystick.

Each Drive Profile can be set to 4Q Mode or Standard Mode separately. Set the **Joystick Only Operation** parameter to 'Yes' in all Drive Profiles for which 4Q Menu Navigation Mode is desired.

The menu structure of the 4Q navigation mode starts at the '**Home Level**'. The Home Level of the 4Q menu is very similar to the standard Accessory Mode.

- The up/down buttons or joystick left/right scrolls through the different accessories
- The plus/minus buttons or joystick reverse enters Drive Mode.



4Q Home Level Menu Map



To exit from a Mode to the home level:

- If Reverse Escape Enable has the value 'yes': deflect the joystick reverse to return to the home level.
- For all modes, except iPortal2, wait for Escape Timeout seconds and the menu will automatically return to the home level. For iPortal2, the menu returns to the home level after Mouse Inactivity Timeout has expired.
- Press the accessory button to return to the home level.



Warning:

If in 4Q menu navigation mode **Reverse Escape Enable** and **Escape Timeout** are both disabled, it is only possible to return to the home level by using the applicable buttons on the keypad.

If the user is not able to use the buttons on the keypad, make sure to either set **Reverse Escape Enable** to 'yes' or set **Escape Timeout** to a value greater than zero when using 4Q menu navigation mode.

Drive Mode – 4Q



Drive Mode starts at the Drive Home Level

• Deflect the joystick forward to enter the Drive Profile Selection Mode

In Drive Profile Selection Mode the Drive Profile flashes.

- Select the desired Drive Profile by deflecting the joystick left/right
- Deflect the joystick forward to enter Drive Mode*.



In **Drive Mode** the speedometer appears.

- Deflect the joystick to drive
- Use the plus/minus buttons to change the Drive Profile

To exit Drive Mode:

- If **Reverse Escape Enable** has the value 'yes', deflect the joystick reverse to return to the Drive home level.
- Wait for **Escape Timeout** seconds and the menu will automatically return to the Drive home level.
- Press the up/down button to return to the Home Level of the next/previous Mode.



4Q Drive Mode Menu Map



Programming the AJR



Warning:

Read the DX System Manual programming chapter (DSM chapter 7) including all its warnings and notes and the programming chapter of the AJR installation manual before programming the AJR.

The XLR programming / charger socket is located at the back of the AJR. To use this socket with the HHP or the PC-Wizard programming cable, a DWIZ-ADAPT adapter plug is needed.



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Parameter list

✓ Editable at this level (see section 7.1.2.1 of the DX System manual)

Viewable at this level

Parameter	Possible Values	Default	HHP	Lite	Std	Adv
AJR User Options (DX Mode)						
Left-Right Mounting	+/- Drive ^/V Accessory +/- Accessory ^/V Drive	+/- Accessory ^/V Drive	-	~	~	~
[+ -] [^ V] Button Mode	Up only Up and Down	Up and Down	-	~	~	~
[I II] Function Button	Speed Pot Full Lighting Warning + Hazard Warning + ECU Alarm ECU Alarm + Toggle ECU Alarm	Speed Pot	-	~	~	~
External Mode Up/Down	Drive Up + Accessory Up Drive Up + Drive down Drive-Accy Up + Drive-Accy Down Accessory Up + Accessory Down	Drive Up + Accessory Up	-	~	~	~
Jack Socket I (UCI-1)	Off Drive Up + Drive Down + Alarm + Horn Drive-Accy Up + Drive-Accy Down + Alarm + Horn	Drive↑ + Drive↓ + Alarm + Horn	-	~	~	~
Jack Socket II (UCI-2)	Off Accy Up + Accy Down + Alarm + Horn	Accy Up + Accy Down + Alarm + Horn	-	~	~	~
Accessory Menu Navigation	Normal Swap ↑→ and ←↓	Normal	-	~	~	~
OBP Menu	Yes/No	Yes	-	~	~	~
Lighting Menu	Yes/No	Yes	-	~	\checkmark	~
IRIS Menu	Yes/No	No	-	~	~	✓

Key:

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Parameter	Possible Values	Default	HHP	Lite	Std	Adv
ECU1 CH1-6 Mouse Mode Menu	Yes/No	Yes	-	~	✓	~
ECU1 CH7 (Alarm) Menu	Yes/No	Yes	-	~	~	~
ECU1 CH8 Menu	Yes/No	Yes	-	~	~	~
ECU2 CH9-16 Menu	No CH9 CH9 to 10 CH9 to 16	СН9 - 16	-	~	√	~
Mode Change Beep	Yes/No	No	-	~	~	~
Reversing Beeper	Yes/No	No	-	~	~	~
Indicator Auto Cancel	Off 5 s 10 s 20 s	Off	-	~	~	~
Power-Up Profile Number	Last used Profile Profile 1 Profile 2 Profile 3 Profile 4 Profile 5 Profile 0	Last used	-	٩	~	~
Return To Last Menu	Yes/No	No	-	٢	~	~
AJR User Profile Options						
Joystick Only Operation	Yes/No	No	-	~	~	~
Reverse Escape Enable	Yes/No	No	-	9	~	~
Escape Timeout	0 – 255 s	0 s	-	~	~	~
Mouse Inactivity Timeout	Off 5 – 60 min	Off	-	۲	~	~
Joystick Angle Compensation	-90° to +90°	0°	~	~	\checkmark	~
Joystick Swap Forward/Reverse	Yes/No	No	-	~	~	~
Joystick Swap Left/Right	Yes/No	No	-	~	~	~
Rotate Joystick 90°	Yes/No	No	-	~	~	~
Drive Profiles						
Load Compensation Response	0 – 100 %	100 %	~	~	~	~
System Settings						
Actuator System Type	CLAM or TAM DX2 Actuators	DX2 Actuators	-	۲	✓	~
Actuator System is Critical	Yes/No	No	-	0	\checkmark	✓



Parameter	Possible Values	Default	HHP	Lite	Std	Adv
Actuator System Missing	Stop Drive Slowdown Drive	Stop Drive	-	6	✓	~

Added/changed DX System parameters

Parameter	Possible Values	Default	HHP	Lite	Std	Adv
Joystick Angle Compensation	-90° to +90°	0°	~	~	~	~

If a user has difficulty with deflecting the joystick straight forward, **Joystick Angle Compensation** can correct for the amount of out-of-centre joystick deflection.

Joystick Angle Compensation must be set for every Drive Profile separately. The value only applies to the joystick that is used in that particular Drive Profile.

Parameter	Possible Values	Default	HHP	Lite	Std	Adv
Rotate Joystick 90°	Yes/No	No	-	~	~	✓

If this parameter is set to 'Yes', the operation of the joystick is rotated by 90°.



Rotate Joystick 90° must be set for every Drive Profile separately. The value only applies to the joystick that is used in that particular Drive Profile.

Different settings can be applied to different joysticks. For example: the user joystick can be rotated while the attendant joystick is not rotated.

To rotate the other way around (Forward \rightarrow Left), set **Joystick Swap Forward/Reverse** and **Joystick Swap Left/Right** to 'Yes' as well.

Parameter	Possible Values	Default	HHP	Lite	Std	Adv
Load Compensation Response	0 – 100 %	100 %	~	~	~	~

The ideal value of **Load Compensation** can change slightly with changing temperatures and applications. Lower **Load Compensation Response** in Drive Profiles where the performance of **Load Compensation** needs to be smoother, for example in very cold temperatures.



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