CR200J Manual
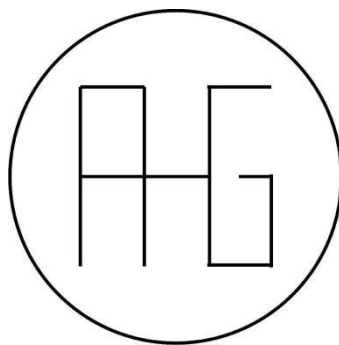

This manual is only for use in Train Simulator Classic. Not for Real world use.

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1. The CR200J

The Fu Xing CR200J is an Electric Multiple Unit (EMU) unit in service with China Railways. The CR200J is the least-fastest unit in the Fu Xing EMU series.

Using the HXD1G and HXD3G electric locomotives and the 25T Passenger cars as prototypes, the CR200J was jointly developed by CRRC Tangshan, Pu Zhen, Dalian, Qingdao Si Fang, Zhuzhou and Datong, led by China National Railway Corporation and CRRC.

The maximum operating speed is 160km / h, and is used to operate long-distance, medium and short-distance intercity trains and can operate on about 100,000 km of existing electrified railways in China.

As of December 31, 2019, the CR200J has been in operation on many railway trunk lines such as Beijing Shanghai railway, Beijing Kowloon Railway, Shanghai Kunming railway, Lanzhou Chongqing railway, Beijing Guangzhou railway and Nanning Kunming railway. On May 26, 2020, the Tonghu railway undertook joint commissioning and test runs using the CR200J.

As is very common now the CR200J uses a single power car and un-powered carriages.

The CR200J normally is seen in two consist types. In the Real world there is a 9-Car consist (Short distance intercity train) and a 18-Car consist (Medium and long-distance train). In the Simulation we have 8 and 16 car consists to ensure they fit the platform lengths in the available routes.

1.1 Formation:

8-Cars Formation:							
1	2	3	4	5	6	7	8
Engine	ZE	ZE	ZE	ZE	ZE	ZE	ZE(Control)
18-Cars Formation:							
1	2	3	4	5	6	7	8
Engine	WE	WE	WE	WE	WE	WE	ZE
9	10	11	12	13	14	15	16
ZE	ZE	WY	WY	WY	WY	WY	WY
17	18						
WY	Engine						

Identification annotation	
WE	2rd-Sleeper

WY	1st-Sleeper
ZE	2rd-coach

1.2 Train Data in Simulation

Consist lengths: 288.45 (8-Cars), 492.87m (16-Cars)
Width:3105mm
Height:4433mm
Maximum real-world Speed:160Km/H (100mph)
Maximum Speed in simulation 250Km/H (130mph)
Power output: 11440 Kw

CR200J Features

1. Multi-Signal mode

The CR200J is equipped with a system that automatically reads the signal state of a suitably equipped route. The current list of routes that the CR200J interacts with is shown in the Signaling section further in this manual..

2. Automatic driving (ATO)

If the route is correctly equipped, then the CR200J can use the data from the route signaling system to drive in Automatic mode. At present this is function is ONLY available on the Southwest China High Speed (SWCHS) route. We have designed the braking profile to allow the train to accurately stop in the station platform.

When approaching a stion that the train is due to stop at it will read that the departure signal is set at Red/Stop and will automatically brake until the train stops completely at the correct location.

IMPORTANT! The Automatic Driving system depends on the state of each signal on how to proceed so it is very important that you operate it correctly to achieve this using the following protocols:

1) Only engage the system after you have departed the station.
2) Immediately you have stopped at the next station disengage the Automatic Drive system.
3) When you have a signal to proceed, and you have started to depart from that station

then re-engage the Automatic drive system once more. The above needs to happen at every station that you are stopping at. If you do not follow these procedures, then the train will automatically drive as soon as its signal allows the train to proceed even though that may not be the correct departure time.

When Automatic Driving (ATO) mode is ON then all actions to control the train will be have no effect, aside from items such as *train key, MCB, or battery power supply.* **If you want to manually control the train, then you will need to turn ATO OFF. If you do this, then you will need to slightly move the controls to retake operation from the computer.**

IMPORTANT: ATO mode only can be used on the Southwestern China High Speed Railway route at present.

3. Dynamic pantograph

In China some lines have different catenary height, namely 5.5m and 6.0m. To accommodate these two different heights there is a control in the cab to manually adjust pantograph height to be the correct one for the route you are driving.

By default, the pantograph height is set to 5.5m

4. Anti-drowsiness vigilance system (ADVS)

Driver fatigue is a major issue and so an Anti-Drowsiness Vigilance System (ADVS) is in use on the CR200J.

In the simulation the ADVS alarm will sound every 30 seconds. If the alarm is not cancelled by you within 15 seconds the train will automatically apply emergency braking and the train will come to a complete stop.

When you hear the ADVS alarm you can either press the "Q" key on your PC keyboard or the appropriate button on the train desk which will cancel the alarm.

If you fail to cancel the alarm and the train comes to a full stop then please refer to the instructions further down in this manual in the "SPECIAL CASE HANDLING" section.

5. Automatic train protection (ATP)

Automatic train protection (ATP) is a system to stop the train over-speeding. Its function is to automatically apply the train brakes to slow it down when the train exceeds the specified speed. When the on-board equipment receives the ground speed limit information, it is

compared with the actual train speed after the information has been processed. When the actual speed of the train exceeds the speed limit, the train brakes will control the speed of the train.

In-Train Simulator you exceed the track speed limit ATP will be activated. If you do not reduce your speed down to the track speed limit within 15 seconds of the ATP alert, then ATP will apply emergency braking and the train will come to a full stop.

If ATP has automatically braked the train to a stop, then please refer to the "SPECIAL CASE HANDLING" section in this manual to allow you to move the train again.

The ATP speed limit range is "your speed" < "Track limit" + 5 (KPH).

CR200J Cab View
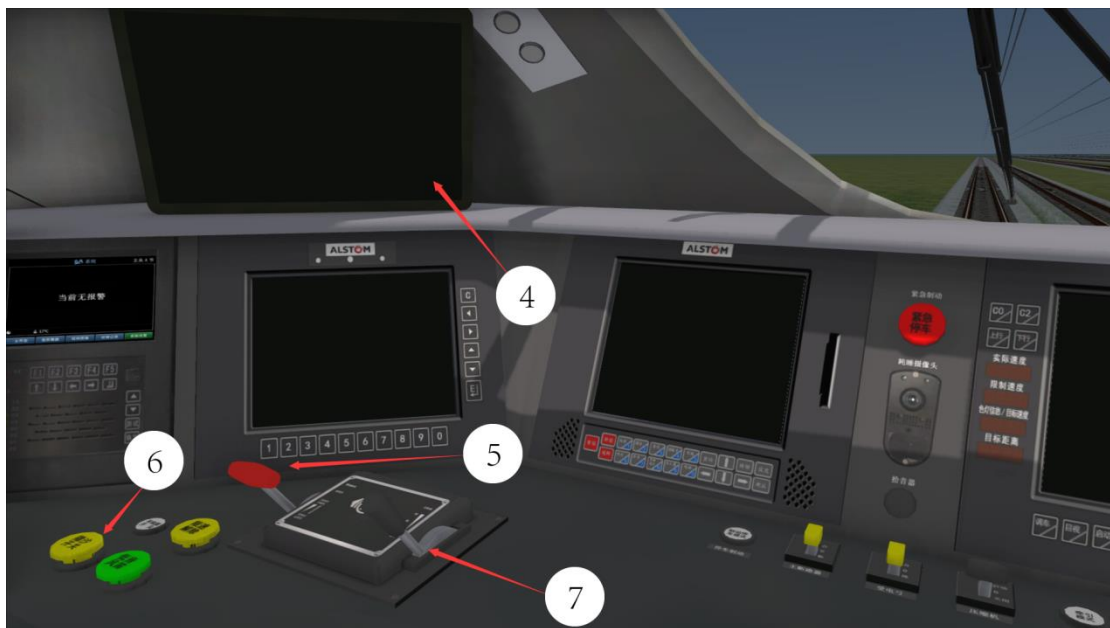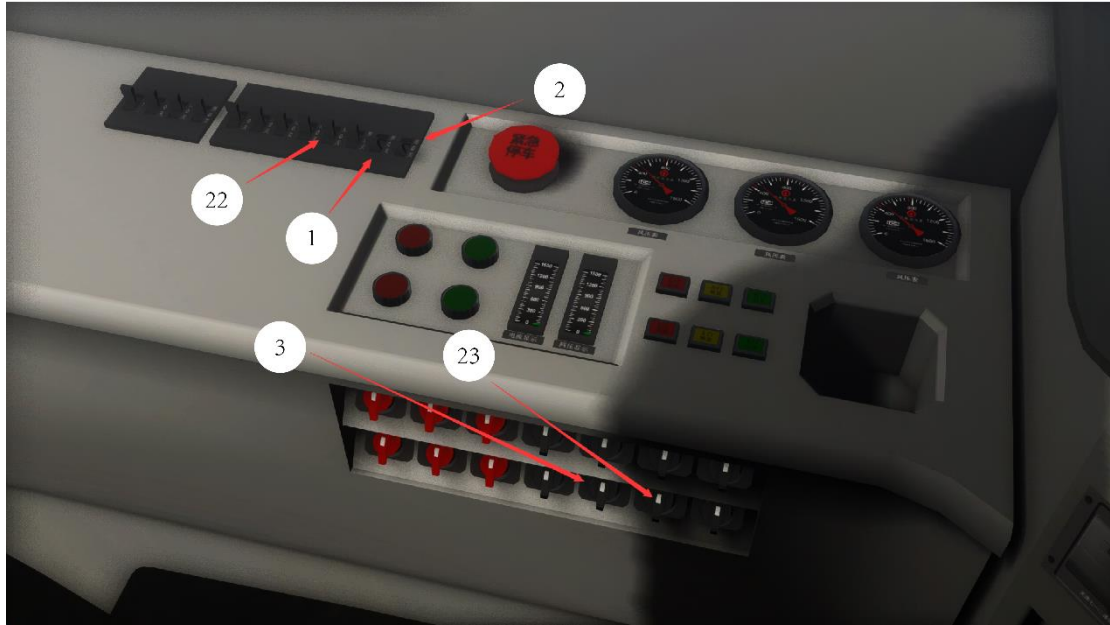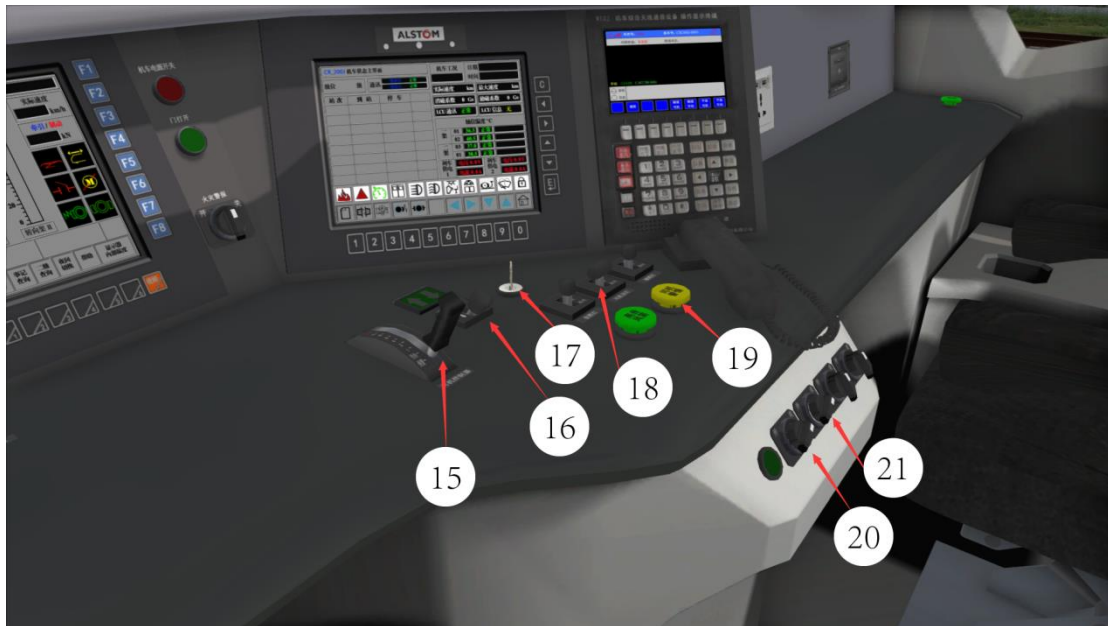
#	Name	#	Name
1	Battery button	13	Pantograph button
2	Power Switch	14	Compressor button
3	Auto Drive button	15	Throttle
4	External train status control panel	16	Reverser
5	Train Brake Control	17	Engine Key
6	Sander	18	Lights button group
7	Locomotives Brake Control	19	ADVS Reset button
8	Signal indicator	20	Dynamic pantograph knob
9	Speed indicator	21	Wiper knob
10	Current speed Limit indicator	22	ATP Control Button

11	Distance indicator	23	ADVS Off Knob
12	MCB button		

Note: Light button group includes Auxiliary lighting, Headlights and Cab Lights.

Shortcut keys

Name	Key	Name	Key
Cab lights ON	J	Cab lights OFF	Ctrl J
Battery on/off button	B	ADVS Reset	Q
Power ON/OFF switch	N	Dynamic Pantograph	Ctrl P / Ctrl Shift P
Pantograph RAISE	P	Head Lights	H Turn On / Shift H Turn Off
Air compressor button	U	Train Brake Control	; Up / ' Down
Throttle	D Down	Horn	Space
	A Up	Reverse button	W Up
Reverse button	S Down	Sander	Z / Shift Z
Main Circuit Breaker (MCB) button	M	ATO	Shift I
Engine Key	F	Turn ADVS Off	Ctrl O
Turn ATP Off	O	Turn ATP On	Shift O
Pantograph Down	Shift P	Windscreen Wiper	Shift V Off / V On

Auxiliary lighting	Ctrl H Turn On	Ctrl Shift H Turn Off
Desk Light	**Turn On** R	Ctrl R Turn Off

Engine set up procedure

Battery ON (B KEY)

↓

Power ON (N KEY)

↓

Train Key ON (F KEY)

↓

Close Main Circuit Breaker (MCB) (M KEY)

↓

Compressor ON (U KEY)

↓

Raise Pantograph (P KEY)

(Use Keys in this order: B, N, F, M, U, P)

Signal indications

ROUTES:
Different routes have different signaling systems. If compatible, the CR200J will interact with them. Listed below are the types of signals that may be seen and what they indicate. Note. Not all routes support all these types of signals and so you may not see all of them when driving.

At the time of writing this manual, October 2022, the supported routes are:
ChengYu Railway Part-II.
South West China High Speed Railway (Just Trains).
South West China High Speed.
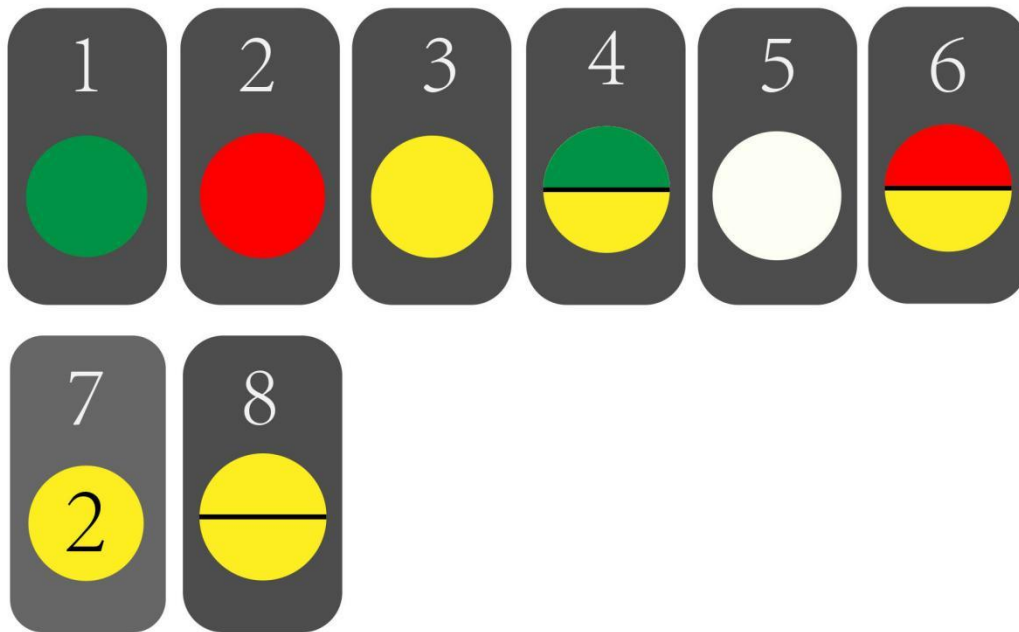LongHai Railway LingBao to MianChi (Steam).
ChengKun Railway (Steam).
GuiLin to HeZhou Railway.

NOTE! The signal indications may NOT be seen outside of the train by the trackside. These indications are displayed IN the cab on the panel that runs top to bottom on the left side of the windscreen.
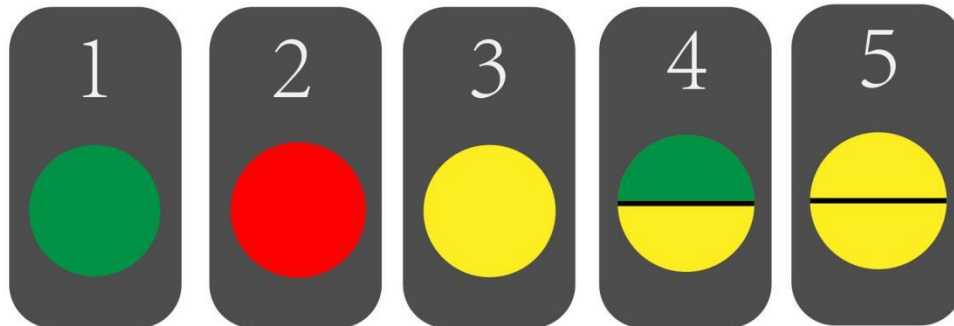
LKJ China Signal System

1. Green. The track is clear and allows you to proceed following the line's speed limitations.
2. Red. This signal indicates a stop. If the dispatcher allows you to pass a red, please stop the train and change to driving that requires you to see view the signals.
3. Yellow. It indicates that there are trains in the second section of the section in front of the current section. Be prepared to slow down.
4. Green-yellow. It indicates that there are vehicles in the third section in front of the section in front of the current one, or that the next signal is showing yellow. Generally, it indicates that you are allowed to pass the signal according to the line speed limit but have good lookout.
5.   White. Indicates that the current signal cannot be read, please drive according to the line speed limit.
6. Red-Yellow. Means to stop immediately.
7. Yellow 2. It indicates that you are approaching the station that you are due to stop at. The indication is the same as that of a yellow signal. Generally, it indicates that you need to reduce speed.
8. Double yellow. Indicates the line will lead to a siding.

CTCS-2 Signal indications

1. Green. The track is clear and allows you to proceed following the line's speed limitations.
2. Red. This signal indicates STOP. You must stop. If the dispatcher allows you to pass a red, please stop the train and switch to On Sight mode first.
3. Yellow. You are expected to travel no faster than 160 km/h once you encounter this aspect.
4. Green-yellow. This means that the next signal is yellow.
5. Double yellow. Indicates the line will lead to a siding.
6. Yellow 2. Yellow circle with number 2 in it. This indicates that the station ahead is about to arrive or close to the parking position. The function is the same as that of the yellow light. Generally, it indicates speed reduction is required.

RESOLVING EMEGENCY BRAKE APPLICATIONS

If the train has been stopped by activation of the ATP or ADVS system, you will see the 'ADVS' or 'ATP' plus the 'EMC' indications on the display as shown above. To reset the systems and allow the train to proceed please carefully follow the steps below:

BRAKING SYSTEMS – AN EXPLANATION
Like most similar trains the CR200J has several types of braking systems.

Train brake – the Default system – This applies the brakes to all the train.
Locomotive brake – This only apples brakes to the locomotive
Dynamic brake – Not used in CR200J

By pressing the F4 key on your PC keyboard this brings up the HUD (Head Up Display)

You will need to see the HUD to carry out this procedure.

In the top middle are of the HUD is the Throttle, Reverser and Brake controls. The Brake control is the one on the right side with the Black handle. To the right of the Brake

control there are three rectangular icons:

Top icon: Train brake
Middle icon: Locomotive brake
Bottom icon: Dynamic brake

By mouse clicking on each icon this shows the brake action for each system in the box above the Brake handle. The in-use icon is indicated by it being green.

By default, the top icon (Train brake) is in use.

RELEASING THE BRAKES AFTER AN EMERGENCY STOP

1. Wait for the train to **FULLY** stop.
2. After the train has fully stopped, pull the throttle lever back to Zero ('PF0' showing).
3. Push Train Brake lever (Red handle) so that "NeutralHandleOff" indication shows in the F4 HUD brake display.
4. Click on the Loco brake icon in on the HUD (middle one) so it changes to green.
5. Move the Locomotive Brake lever (BLACK handle, No.7 in the controls image above) forwards to show "Operation 60%" indication in the F4 HUD display.
6. If the train was stopped by the **ADVS system, next press** and **HOLD** the yellow **ADVS reset button (or Q on your keyboard)**, and the emergency brakes will be released **after 20 seconds**. You can release the ADVS reset button after the alarm has stopped sounding.
7. If the train was stopped by the **ATP system, press,** and **HOLD** the yellow **ADVS reset button (or Q on your keyboard)**, and the emergency brakes will be released **after 5 seconds.** You can release the ADVS reset button after the alarm has stopped sounding.
8. You can now proceed to drive the train again.
9. **NOTE! The ADVS System will still be operational during any emergency stop, so you MUST remember to cancel its alarm during the reset procedure, if not and you have the ADVS alarm on the panel and you will have to reset the ADVS alarm as well using the above procedure. You can of course turn the ADVS system OFF at any time using the control or CTRL+O keys on your PC keyboard.**

ADVS AND ATP CONTROLS

ADVS CONTROL

Press **Control + O** to turn the ADVS system OFF.
If you do not want to have ADVS operation then you can turn it off with no impact on the train operation, although of course you will not have its function in operation.

ADVS Reset

When the ADVS alarm sounds, press the disarm button to stop it sounding or use the shortcut key "Q".

ATP CONTROL

Press **O** to turn off.
Press **Shift + O** to turn on.

Setting the train number

Train number setting panel (not prototypical)

Name of numbers	
1	Confirm
2	Clear
3	Train level
4	Numbers

Set Numbers

When the computer start has completed, enter the level and your train number, then click confirm. If you want to change Train number, please click "Clear" then enter your new number. The train numbers are shown in the table below:

An example:

Please wait until the train computer has completed starting up. On the train number entry panel:
1) Enter: C1501 on the display key panel.
2) Press the "Confirm" key (1)
3) If you now look outside the train on the side displays, you will see the train information displayed.

Train number table

China Railway Train Numbers			
C1501	长春 – 白城 ChangChun to BaiCheng	D711	北京 – 杭州 BeiJing to HangZhou
C1503	长春 – 白城 ChangChun to BaiCheng	D715	北京南 – 南京 BeiJingNan to NanJing
C1509	长春 – 白城 ChangChun to BaiCheng	D729	北京西 – 深圳 BeiJingXi to ShenZhen
C1511	长春 – 白城 ChangChun to BaiCheng	D701	北京 – 上海 BeiJing to ShangHai
C1517	长春 – 白城 ChangChun to BaiCheng	D709	北京南 – 上海 BeiJingNan to ShangHai
D785	攀枝花南 – 昆明 PanZhiHuaNan to KunMing	D737	北京西 – 南昌 BeiJingXi to NanChang
D789	攀枝花南 – 昆明 PanZhiHuaNan to KunMing	D771	上海南 – 九江 ShangHaiNan to JiuJiang

D5428	上海南 – 开化 ShangHaiNan to KaiHua	D780	西安 – 鄂尔多斯 Xi'An to E'ErDuoSi
D5483	南京 – 启东 NanJing to QiDong	D6657	北京南 – 保定 BeiJingNan to BaoDing
D781	杭州 – 青岛北 HangZhou to QingDaoBei	C5686	成都 – 达州 ChengDu to DaZhou
C5680	成都 – 达州 ChengDu to DaZhou	C5682	成都 – 达州 ChengDu to DaZhou

Virtual Train Numbers

E1051	曲水 – 幻城 QuShui to HuanCheng	A385	天合关 – 幻城 TianHeGuan to HuanCheng
E869	曲水 – 灏州 QuShui to LingZhou	A112	水韵 – 灏州 ShuiYun to LingZhou
E735	桃溪东 – 灵澄 TaoXiDong to LingCheng	A2358	桃溪东 – 林阳 TaoXiDong to LinYang
E85	桃溪东 – 洛州 TaoXiDong to LuoZhou	A2117	桃溪东 – 雪阳 TaoXiDong to XueYang
E537	洛州 – 陇州 ChangChun to BaiCheng	A861	万水河 – 流云渡 WanShuiHe to LiuYunDu
E32	洛州 – 洛都 LuoZhou – LuoDu	A75	流云渡 – 洛都 LiuYunDu – LuoDu
E4358	水韵 – 旭日 ShuiYun – XuRi	A1051	西陵 – 曲水 XiLing – QuShui
E17	水韵 – 曲水 ShuiYun – QuShui	A2379	水韵 – 青田 ShuiYun – QingTian
E21	幻城 – 水韵 HuanCheng – ShuiYun	A655	陇州 – 水韵 LongZhou – ShuiYun
E128	幻城 – 洛州 HuanCheng to LuoZhou	A668	幻城 – 罗州 HuanCheng to LuoZhou
E1087	幻城 – 旭日 HuanCheng to XuRi	A8085	幻城 – 昌黎 HuanCheng to ChangLi
E1195	幻城 – 万水河 HuanCheng to WanShuiHe	A13	幻城 – 流云渡 HuanCheng to LiuYunDu

Scenarios Train Numbers

D778	积金 – 南充 JiJin to NanChong	D807	成都东 – 重庆北 ChengDu East to ChongQing North
D907	重庆北 – 成都东 ChongQing North to ChengDu East	D1149	广安南 – 成都东 Guang'An South to ChengDu East
D6702	积金 - 合川 JiJin to HeChuan	D311	遂宁 – 广安南 SuiNing to Guang'An South
D1915	遂宁 – 成都东 SuiNing to ChengDu East	D9801	合川 – 重庆北 HeChuan to ChongQing North

SCENARIOS:

This CR200J expansion comes with a set of Eight scenarios designed to be used with the Southwest China High Speed rail Network https://www.justtrains.net/product/southwest-china-high-speed-rail-network route (not supplied with this CR200J software but available to purchase from the Just Trains website).

CAREER SCENARIOS

CR200J-01 [D6702] Temporary commuting
Because of a capacity shortage you have been temporarily assigned to JiJin station to help. You will drive the CR200J to Hechuan to complete the task.

CR200J-02 [D1915] Fast stopper
Today, you will drive a stopping train from Suining to Chengdu East.

CR200J-03 [D9801] Tutorial
This scenario will teach you the basics of how to set up the train ready for departure. Follow the on-screen messages and refer to the manual for more detailed information. Enjoy!

CR200J-04 [D3111] Express train
Good morning! Today, you will drive the CR200J as one of a group of stopping express trains runni9ng from Guang'an South to Suining.

STANDARD SCENARIOS

CR200J-01 [D778] Additional service
You are driving an additional service from JiJin to NanChong. Due to more passengers in the peak tourist season more trains have been added to the line to enhance its capacity. You are driving one of these additional services.

CR200J-02 [D807] Morning Express
This is the first train to Lanzhou this morning. You need to drive this express service to Chongqing North and then hand it over to the next driver to continue ethe journey.

CR200J-03 [D907 Commuter service
Today you will drive a commuter service from Chongqing North to Chengdu East.

CR200J-04 [D1149] Slow Commuting
Due to some unexpected issues on the line, the train capacity from Chongqing North to Chengdu East has been reduced and so some of the slower commuter trains have been scheduled to increase the passenger capacity. You are driving one of these.

QUICK DRIVE SCENARIOS

The CR200J is Quick Drive enabled and can be driven on any suitable Quick Drive-enabled electric powered route of your choice.

CREDITS:

PhantomGroup
Just Trains (www.justtrains.net)
All the testers.